Н

```
GenCore version 5.1.8 (c) 1993 - 2006 Biocceleration Ltd.
```

- protein search, using sw model OM protein May 25, 2006, 14:52:22 ; Search time 196 Seconds Run on:

(without alignments) 335.914 Million cell updates/sec

US-10-614-481-9 Perfect score:

759 1 MWLQNLLLLGTVVYSMPAPT......KNLKDFLFEIPFDCWKPAQK

Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

2589679 segs, 457216429 residues Searched:

Total number of hits satisfying chosen parameters:

seq length: 0 seq length: 200000000 Minimum DB : Maximum DB : Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database

A\_Geneseq\_8:\*

geneseqp1980s:\*
geneseqp1990s:\*
geneseqp2000s:\*
geneseqp2001s:\*
geneseqp2001s:\* geneseqp2003bs:\* geneseqp2003as:\* geneseqp2004s:\* Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

geneseqp2006s:\*

		ф				
Result No.	Score	Query Match	Length	DB	QI .	Description
-	759	100.0	144	4	ABP98711	App98711 Equine qr
7	759	100.0	144	4	AAB37147	Equine
٣	641	84.5	144	~	AAR23662	
4	587	77.3	144	7	AAR54818	Aar54818 CHEF-2. 3
Ŋ	586	77.2	144	ч	AAP60418	Aap60418 Human gra
9	586	77.2	144	٦	AAP70657	
7	586	77.2	144	~	AAR04098	
80	586	77.2	144	~	AAR71118	
σ	586	77.2	144	~	AAR92800	Aar92800 Human GM-
10	586	77.2	144	~	AAW60031	
11	586	77.2	144	m	AAB18633	Aab18633 Amino aci
12	586	77.2	144	4	AAB50871	Aab50871 Human GM-
13	586	77.2	144	4	AAB84602	Aab84602 Amino aci
14	586	77.2	144	2	ABB05055	Abb05055 Human gra
15	586	77.2	144	Ŋ	AAU11977	Aau11977 Human GM-
16	586	77.2	144	9	ABR55847	Abr55847 Human GM-
17	586	77.2	144	7	AAE14938	Human
18	286	77.2	144	^	ADF15243	Adf15243 Human alb
19	586	77.2	144	7	ADF15149	Adf15149 Human alb
20	586	77.2	144	^	ADF15242	Adf15242 Human alb
21	586		144	7	ADF15150	Adf15150 Human alb
22	586	77.2	144	7	ADH44684	Adh44684 Human GM-
23	586	77.2	144	7	AD101020	Adi01020 Human gra

Adhl0509 Human GM-	Adl66118 Human gra	Adl66120 Human PAP	Adl16730 Human gra	Adno7713 Human G-C	Adn49690 Human gra		Adp19843 Human GMC	Adq59665 Human GMC	Adr46068 Human gra	Adr46066 Human gra	Ads88047 Tumour tr	Adu74366 Human gra	Adv96467 Human GM-	Ady19524 PRO polyp		Hume	Adz26537 Human GMS	Ady99886 Human imm	Human	Aeb10855 Human GM-	Aeb54698 Human col
ADH10509	ADL66118	ADL66120	ADL16730	ADN07713	ADN49690	ADP12451	ADP19843	ADQ59665	ADR46068	ADR46066	ADS88047	ADU74366	ADV96467	ADY19524	ADY16395	ADY84980	ADZ26537	ADY99886	ADZ20507	AEB10855	AEB54698
144 8	144 8	144 8	144 8	144 8	144 8	144 8	144 8	144 8	144 8	144 8	144 8	144 8	144 9	144 9	144 9	144 9	144 9	144 9	144 9	144 9	144 9
77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2	77.2
586	286	586	586	586	586	286	586	586	586	586	586	286	586	286	286	586	586	586	586	586	586
24	25	56	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

## ALIGNMENTS

ABP98711 standard; protein; 144 AA (first entry) 27-JUN-2003 RESULT 1 ABP98711 

Equine granulocyte-macrophage colony stimulating factor.

Granulocyte-macrophage colony stimulating factor; GM-CSF; antibacterial; antivital; vaccine; animal; immunogen; DMRIE; cationic lipid; dog; cat; quaternary ammonium salt; canine distemper virus; canine herpes virus; canine parainfluenza virus; feline herpes virus;

Equus caballus.

WO200077043-A2.

21-DEC-2000.

08-JUN-2000; 2000WO-FR001592.

10-JUN-1999; 99FR-00007604. 19-JUL-1999; 99US-0144490P.

(MERI-) MERIAL.

Audonnet JF; Barzu-Le Roux S, Fischer LJ,

WPI; 2001-071259/08. N-PSDB; ABZ80828.

DNA vaccine containing plasmid and cationic lipid containing quaternary ammonium salt, useful for protecting pets and sports animals against, e.g. herpes virus.

Example 10; Fig 26; 109pp; French.

The invention relates to a novel DNA vaccine against pathogens that affect pets and sports animals comprises a plasmid containing a sequence, expressible in vivo, that encodes an immunogen from the relevant pathogen and a cationic lipid containing a quaternary ammonium salt, particularly N-(2-hydroxyethyl)-N,N-dimethyl-2,3-bis(tetradecyloxy)-1-propanammonium (DMRIE). The immunogens are particularly taken from canine distemper

N

```
virus (CDV), canine parainfluenza virus type 2 (CPI-2), canine herpes virus (CHV), feline herpes virus type 1 (FHV-1), equine herpes virus type 1 (EHV-1), and EHV type EHV-4). The method may also include the use of a immunogenic stimulation factor especially a granulocyte-macrophage colony stimulation factor especially a granulocyte-macrophage. The vaccines, which may be multivalent, are particularly used to protect dogs, cats and horses against bacterial and viral diseases, particularly those caused by the Paramyxoviridae. Formulations with the quaternary protection, particularly when administered subcutaneously. This sequence represents an equine GM-CSF used in the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Immunostimulatory; granulocyte-macrophage colony stimulating factor; horse; reverse transcriptase PCR; colony formation; blood; cytotoxicity; inflammation; vector; adjuvant; immunogen; vaccination; vaccine; equine herpes; tetanus; Borrelia burgdorferi; rables.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MWLQNLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MWIQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Novel DNA encoding equine granulocyte-macrophage colony-stimulating factor, useful as adjuvant for vaccines and as non-specific immunostimulant.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                100.0%; Score 759; DB 4; Length 144; 100.0%; Pred. No. 2.4e-74; cive 0; Mismatches 0; Indels (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Equine granulocyte-macrophage colony stimulating factor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Andreoni CMP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAB37147 standard; protein; 144 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        08-JUN-2000; 2000WO-FR001590.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Claim 6; Fig 1; 34pp; French.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         99US-0138843P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18-JUN-2002 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity 100.
Matches 144; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bublot M, Perez JM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2001-080689/09.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-PSDB; AAF28953
                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 144 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO200077210-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (MERI-) MERIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21-DEC-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAB37147;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Eguus sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AABB37147

AABB37147

AAC AABB3

XX AAC AABB3

XX Immm

X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 2
             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
```

This sequence represents a horse granulocyte-macrophage colony stimulating factor (GM-CSF). The corresponding gene was isolated from horse lymphocytes using a reverse transcriptase PCR method with primers AAF28954-AAF28960. The protein has been shown to have at least 75%

```
colony formation in various types of blood cells and particularly induces colony formation in various types of blood cells and particularly induces cytotoxicity of macrophages; stimulates antibody-dependent cytotoxicity, and causes recruitment of leucocytes to sites of inflammation. Vectors containing the gene or the protein itself, are useful as adjuvants in amunogenic or vaccinating compositions for horses, e.g. for protection against equine herpes, tetanus, Borrelia burgdorferi, rabies etc. Also as non-specific stimulators of the immune system. In a specific example, containing the sequence for equine GM-CSF was used to transform GD-KI cells and the transformants grown for 48 hours. The culture supernatant was then added to culture medium being used to grow porcine bone marrow cells. After 14 days, the mean number of colonies per culture box was 12-15, compared with none for cells grown in absence of GM-CSF. Equine GM-CSF allows a reduction in the amount of immunogenic/vaccinating component required, and may induce a response in
                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                              61 SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF
                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTWAASHYKQHCPPTLETSCATQMITF
                                                                                                                                                                                                                                                                                                                                                                            1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Granulocyte-macrophage colony-stimulating factor; immuno-depression;
                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                              100.0%; Score 759; DB 4; Length 144; 100.0%; Pred. No. 2.4e-74;
                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                              ö

    17
    note= "putative signal sequence"

                                                                                                                                                                                                                                                animals that would otherwise be non-responders
                                                                                                                                                                                                                                                                                                                                              0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /note= "mature protein'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (CSIR ) COMMONWEALTH SCI & IND RES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAR23662 standard; protein; 144 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Seow HF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           90AU-00002294.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          91AU-00005175.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           90AU-00002294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     vaccine adjuvants; cytokine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (revised)
(first entry)
                                                                                                                                                                                                                                                                                                                                              Matches 144; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   18. .144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Wood PR, Rothel JS,
                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WPI; 1992-150483/18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          N-PSDB; AAQ24294
                                                                                                                                                                                                                                                                                Sequence 144 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ovine GM-CSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            13-SEP-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            .3-SEP-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21-MAR-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    25-MAR-2003
27-OCT-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO9205255-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              02-APR-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ovis aries.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAR23662;
                                                                                                                                                                                                                                                                                                              Query Match
Best Local $
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAR23662
        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠ
```

```
The sequence is that of a porcine cytokine designated chimerism enhancing factor (CHEP-2). The cytokine can be used for improving engrafment, stabilisation and proliferation of tissues, esp. bane marrow cells, in xenogeneic transplantation. The cytokine may be used to prevent or treat various swine diseases, e.g. African swine fever, Hog cholera, pseudorabies, etc. See also AAST4817-9. (Updated on 10-MAR-2003 to add missing OS field.) (Updated on 25-MAR-2003 to correct PN field.)
                      Porcine cytokine Chimerism Enhancing Factors (CHEFS) and DNA - used to enhance xenograft tolerance.
                                                         Claim 25; Page 72; 113pp; English.
 N-PSDB; AAQ64864
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18-NOV-1985;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                20-NOV-1984;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    25-MAR-2003
01-JAN-1980
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          WO8603225-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                05-JUN-1986
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               rokota T,
                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAP60418;
                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                            ARESULT 5
ð
                                                                                                                                                                                                                                                                           윤
                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 SEMFDSQEPTCLQTRLELYKQGLRGSLTGSLTGSLTWMASHYKKHCPPTQETSCETQIITF 120
                                                                                                                                                                                                                                                                                                                                       SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF 120
                                                                  The sequence is that of the ovine granulocyte-macrophage colony stimulating factor (GM-CSF), a cytokine-like molecule. The ovine cytokines will be useful in the intensive livestock industries such as live animal export trade, feed-lots and intensive rearing industries, where animals are subjected to great environmental challenge with infectious diseases, partic. respiratory infections, and are more prone to immunodepressive effects. The cytokines may be used for treatment or prophylaxis to maintain, stimulate or enhance immunoresponsiveness. They may also be useful as natural adjuvants for vaccines for sheep and cattle. See also AAR23661-R23667. (Updated on 25-MAR-2003 to correct PA
                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                               9
           encoding ovine cytokine(s) - used to prepare recombinant cytokine(s) treatment of immuno-depression in sheep.
                                                                                                                                                                                                                                                                                                     WWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDA1KEALSLLNNSSDTAA1MNETVEVV
                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             porcine; transplant;
swine fever; Hog cholera;
                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                      84.5%; Score 641; DB 2; Length 144;
84.0%; Pred. No. 1.8e-61;
live 11; Mismatches 12; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hawley RJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Schacter BZ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Cytokine; chimerism enhancing factors; xenogeneic cells; bone marrow; African Pseudorabies.

    .17
    /note= "signal peptide"

                                                                                                                                                                                                                                                                                                                                                                                                   KSFKKNLKDFLFEIPFDCWKPAOK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAR54818 standard; protein; 144 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Monroy RL,
                                              Disclosure, Fig 3; 79pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   93WO-US010295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           92US-00967188
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      93US-00133979
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (BIOT-) BIOTRANSPLANT INC.
                                                                                                                                                                                                                                                   Best Local Similarity 84.09
Matches 121; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (revised)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     revised)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Rosa MD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 1994-167114/20
                                                                                                                                                                                                                  Sequence 144 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  26-OCT-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           27-OCT-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO9409803-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     08-OCT-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10-MAR-2003
07-NOV-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           11-MAY-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ponath PD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sus scrofa
                                                                                                                                                                                                                                                                                                                 н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAR54818;
                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CHEF-2.
                                                                                                                                                                                           field.)
           For
                                                                                                                                                                                                                                                                                                                                                                                                                                                           XEEXSXUUUUUUU
                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                         ሯ
                                                                                                                                                                                                                                                                                                                                      ઠ
                                                                                                                                                                                                                                                                                                                                                                                      ठ
```

```
ö
                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                       61 SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                               9
                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          granulocytes - useful for infectious diseases and to
                                                                                                                                                                                                                                                                                                   61 CEMFDPQEPTCVQTRLNLYXQGLRGSLTRLKSPLTLLLAKHYEQHCPLTEETSCETQSITF
                                                                                                                                                          1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                           1 MMLQNLLLLGTVVCSISAPTRPPSPVTRPWQHVDAIKEALSLLNNSNDTAAVMNETVDVV
                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         The protein has GM-CSF activity and is useful in elucidating control mechanisms of mammalian immune responses. It is also useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Granulocyte, macrophage, colony stimulating factor; chemotherapy; neoplastic disease therapy; infectious disease therapy; ss.
                                                                                                          ö
                                                     Length 144;
                                                                                                       21; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human granulocyte macrophage-colony stimulating factor.
                                                  77.3%; Score 587; DB 2; 76.4%; Pred. No. 1.4e-55;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          New poly:peptide(s) for colony stimulation of enhancing body defences against neoplasms and overcome myelo:suppression in chemotherapy.
                                                                                                       13; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Arai K;
                                                                                                                                                                                                                                                                                                                                                                               121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                             121 KSFKDSLNKFLFTIPFDCWGPVKK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAP60418 standard; protein; 144 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Disclosure, Fig 1, 53pp, English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Lee FD, Rennick D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (SCHE ) SCHERING BIOTECH CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               85WO-US002250.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 84US-00673898
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (revised)
(first entry)
                                                                              Best Local Similarity 76.4
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              WPI; 1986-155831/24.
N-PSDB; AAN60364.
Sequence 144 AA;
```

Length 144;

```
Query Match
Best Local Similarity 76.4
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N-PSDB; AAQ04017
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 144 AA;
                                                                                                                                                                                                                                                                                                                                      Homo sapiens
                                                                                                                                                                                                                                                                                                                                                          JP02076596-A
                                                                                                                                                                                                                                                                                                                                                                                                    13-SEP-1988;
                                                                                                                                                                                                                                                                                                                                                                                                                         13-SEP-1988;
                                                                                                                                                                                                                                                                                                                                                                               15-MAR-1990.
                                                                                                                                                                                                                                                            10-SEP-1990
                                                                                                                                                                                                                                        AAR04098;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
                                                                                                                                                                                             RESULT 7
                                                                                                                                                                                                                              Q
                                                                        셤
                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ð
                                                     8
                                                                                              ò
                                                                                                                                        ò
                                                                                                                                                           셤
                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A recombinant DNA molecule encoding a hGM-CSF is claimed wherein there is a 5' terminal alteration allowing higher yield than the native DNA sequence. The cpds. may be used to reduce the likelihood of infections in immunologically compromised individuals, such as those suffering from AIDS by increasing their white blood cell count
                                                                                                                                                                                   120
                                                                                                                                                                                               Sequencu of a human granulocyte-macrophage colony stimulating factor (hGM-CSF)-like polypeptide isolated from 5637 cell line.
                                                                                                                                         9
                                                                                                                                                              9
administration to enhance natural defences against neoplastic and infectious diseases or as an adjunct in chemotherapy to overcome myelosuppression. GM-CSF is prepared by conventional recombinant DNA techniques. The factor has activity on human neutrophilic granulocytes, macrophages and eosinophils. (Updated on 25-MAR-2003 to correct PF field.) (Updated on 25-MAR-2003 to correct PP field.)
                                                                                                                                                     SETFDAEELICLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF
                                                                                                                                         1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Human granulocyte-macrophage stimulating factor-like polypeptide(s) -
produced from recombinant DNA sequence having 5' terminal alteration.
                                                                                                                     Gaps
                                                                                                                     ;
0
                                                                                              77.2%; Score 586; DB 1; Length 144; 76.4%; Pred. No. 1.8e-55; tive 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                           17. .18
/note= "for signal peptide"
                                                                                                                                                                                                                                          KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
                                                                                                                                                                                                                                                                                                        Ą
                                                                                                                                                                                                                                                                                                                                                                                                     thurapy; leukocyte; leucaemia
                                                                                                                                                                                                                                                                                                        AAP70657 standard; protein; 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Example, Fig 2; 61pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   86WO-US002106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      85US-00783414
                                                                                               Query Match
Best Local Similarity 76.4%
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                  18-APR-1991 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Delamarter J, Ernst JF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DELAMARTER J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 1987-108701/15.
N-PSDB; AAN71002.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (BIOJ ) BIOGEN NV
                                                                            Sequence 144 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Cleavage-site
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  03-OCT-1986;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         03-OCT-1985;
                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO8702060-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              09-APR-1987
                                                                                                                                                                                                                                                                                                                             AAP70657;
                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (DELA/)
                                                                                                                                                                                                                                                                                                                                                                                                      AIDS
                                                                                                                                                                                                                                                                                  RESULT 6
AAP70657
                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                    d
                                                                                                                                            ઠે
                                                                                                                                                                                    ò
                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                 g
```

Sequence 144 AA;

```
ö
                                        ö
                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human GM-CSF derivs. have polypeptide fragment from N-terminal of metapyrocatechase, bonded at its C-terminal to the N-terminal of GM-CSF. Expression vectors pMGM1 and pMGM3 also contain the tac promotor/operator and the SD sequence of metapyrocatechase
                                                                                                                                                                61 SETFDABELICLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                 9
                                                                                                                       9
                                                                                                                                                                                     MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                       1 MWLQSLLLLGTVACSISAPARSPSPSTQPWEHVNAIQEARRLLNLSRDTAAEMNETVEVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MWLQNLLLLGTVVYSMPAPTROPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human granulocyte macrophage colony stimulating factor derivs. - for treating diseases due to leukopenia or osteomyelo-dysplastic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                        .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Metapyrocatechase, GM-CSF; luekopaenia; osteomyelodysplasia; granulocyte macrophage colony stimulating factor; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 144;
                                        19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           77.2%; Score 586; DB 2; 76.4%; Pred. No. 1.8e-55; tive 15; Mismatches 19;
; Score 586; DB 1;
; Pred. No. 1.8e-55;
15; Mismatches 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121 ESFKENLKDFLLVIPFDCWEPVQE 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KSFKKNLKDFLFEIPFDCWKPAOK 144
                                                                                                                                                                                                                                                 121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                              AAR04098 standard; protein; 144 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Disclosure; Page ?; -pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Metapyrocatechase gene product
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (SAGA ) SAGAMI CHEM RES CENTRE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               88JP-00229468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        88JP-00229468
                       76.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity ....
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WPI; 1990-128250/17.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
```

61 SEMFDLQEPTCLQTRLELYKQGLRGSLTKLKGPLTMMASHYKQHCPPTPETSCATQIITF 120

KSFKKNLKDFLFEIPFDCWKPAQK 144 

121

ò 셤

S

```
This sequence represents human granulocyte-macrophage colony stimulating factor (GM-CSF). Heterogeneity of the nucleotide sequence and the amino acid sequence has been observed and this sequence was deposited in E. coli as ATCC 39923. The GM-CSF protein was isolated using the method of the invention. The method comprises killing and disrupting GM-CSF-expressing bacteria and preparing a GM-CSF containing extract from the disrupted cells. This extract is subjected to quaternary amino ethyl (GAB) anion exchange chromatography to separate proteases and produce protease-free GM-CSF fractions. These fractions are subjected to red 120 triazinyl dyeligated affinity chromatography to obtain GM-CSF containing fractions. Free of hydrophobic impurities. These fractions are then subjected to gel filtration column chromatography to produce GM-CSF containing fractions free of high and low mol. wt. impurities which are then subjected to gel reversed-phase column chromatography to produce fractions with a purity of greater than 95%. The obtained GM-CSF may be used in clinical situations where the stimulation of blood cell generation is desirable.
                                                                                                                                                                                                       Human; granulocyte-macrophage colony stimulating factor; GM-CSF; E.coli; quaternary amino ethyl anion exchange chromatography; red 120 triazinyl dye-ligand affinity chromatography; gel filtration column chromatography; stimulation; blood cell.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Purifying granulocyte-macrophage colony-stimulating factor - by anion-
exchange, dye-ligand affinity, gel filtration and reversed-phase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       77.2%; Score 586; DB 2; Length 144; 76.4%; Pred. No. 1.8e-55; ive 15; Mismatches 19; Indels
                                                                                                                                                                      GM-CSF encoded by clone pcD-human-GM-CSF cDNA insert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Seelig GF, Trotta PP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (Updated on 25-MAR-2003 to correct PF field.)
                                       AAR71118 standard; protein; 144 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure; Col 3-4; 5pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                       87US-00074410.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       89US-00455453.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (SCHE ) SCHERING-PLOUGH CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                  93US-00125356
                                                                                                               (revised)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Reichert P, Kosecki RA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI; 1995-098169/13.
N-PSDB; AAQ84865.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 144 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    chromatography
                                                                                                                                                                                                                                                                                                     Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                  21-SEP-1993;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       16-JUL-1987;
                                                                                                                                                                                                                                                                                                                                        US5391706-A.
                                                                                                           25-MAR-2003
12-OCT-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15-DEC-1989
                                                                                                                                                                                                                                                                                                                                                                             21-FEB-1995
                                                                          AAR71118;
RESULT 8
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Muteins of human granulocyte-macrophage colony stimulating factor (AAR92800) and other cytokines (see also AAR92790-99 and AAR22801-02) are obtd. by site-directed mutagenesis of natural cytokine sequences at positions identified as critical for activity. The muteins are useful in the screening of cytokine and cytokine receptor levels, and in the diagnosis or treatment of e.g. inflammation, cancer, and degenerative
                                                                                                                                                                                                                                                                                                                                                                                                                  murine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 SETFDAEELICLOTRLKLYKOGLRGSLIKLEGPLIMMASHYKOHCPPTLETSCATOMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEMFDLQEPTCLQTRLELYKQGLRGSLTKLKGPLTMMASHYKQHCPPTPETSCATQIITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                    Cytokine; mutein; granulocyte-macrophage colony stimulating factor; GM-CSF; agonist; antagonist; diagnosis; therapy; cancer; inflammation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                               i(s), esp. interleukin(s) and m
- useful for the diagnosis and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       77.2%; Score 586; DB 2; Le 76.4%; Pred. No. 1.8e-55; ive 15; Mismatches 19;
                                                                                                                                                                                                                                                                                                                                                                                                                Mutein(s) of human and murine cytokine(s), P600 contg. amino acid substitutions. - use
                                                                                                                                                                                                                                                                                                                                                                                                                                P600 contg. amino acid substitutions. - treatment of cancer, inflammation, etc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Disclosure; Page 41-42; 52pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KSFKKNLKDFLFEIPFDCWKPAOK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAR92800 standard; protein; 144 AA
                                                                                                                                                                                                                                                                            95WO-US008950
                                                                                                                                                                                                                                                                                                       94US-00284393.
                                                                               (first entry)
                                                                                                                                                                                                                                                                                                                                                              ΰ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                              Zurawski
                                                                                                                                                                                                                                                                                                                                 (SCHE ) SCHERING CORP
                                                                                                                                                                 degenerative disease
                                                                                                                                                                                                                                                                                                                                                                                      WPI; 1996-129335/13.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 144 AA;
                                                                                                          Human GM-CSF
                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                      WO9604306-A2
                                                                                                                                                                                                                                                                             31-JUL-1995;
                                                                                                                                                                                                                                                                                                       01-AUG-1994;
                                                                                                                                                                                                                                                                                                                                                            Zurawski SM,
                                                                                24-MAY-1996
                                                                                                                                                                                                                                                  15-FEB-1996.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      disorders
                                                     AAR92800;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAW60031
ID AAW
RESULT
                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
```

AAW60031 standard; protein; 144 AA

| SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF 120

MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV

Matches 110; Conservative

Н

셤 ઠ

61

ö

Gaps ö 9

us-10-614-481-9.rag

```
Amino acid sequence of a human GMCSF protein helix A fragment
                                                                                                                                                                   09-MAR-2000; 2000WO-US006067.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches 110; Conservative
                                                                                                                                                                                                                                                           (ZYMO ) ZYMOGENETICS INC.
                                                                                                                                                                                                                                                                                           Ŗχ,
                                                                                                                                                                                                                                                                                         Presnell (
                                                                                                                                                                                                                                                                                                                                      WPI; 2000-565600/52.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 144 AA;
                                                                                                         WO200053761-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          genetic defect
                                                                                                                                                                                                                  11-MAR-1999;
01-JUL-1999;
                                                                             Homo sapiens.
                                                                                                                                                                                                  09-MAR-1999;
                                                                                                                                       14-SEP-2000
                                                                                                                                                                                                                                                                                         Novak JE,
Gross JA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     This represents the human granulocyte macrophage colony stimulating factor (GM-CSF). A murine GM-CSF which is similar to the human GM-CSF is used for generating a recombinant poxvirus. The recombinant poxvirus comprises a nucleic acid sequence encoding a biological response modifier or its immunomodulating fragment in a non-essential region of the recombinant virus genome. The biological response modifier may be a cytokine, e.g. interlekin-12 (IL-12), IL-2 or GM-CSF. The recombinant poxvirus is used to transfect cells for expression of the biological response modifier. The products are useful for the treatment of tumours or for protecting a host against tumour formation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SETFDAEBLICLOTRLKLYKOGLRGSLIKLEGPLTMMASHYKOHCPPTLETSCATOMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ambinant poxvirus encoding biological response modifier - useful for treatment or prevention of tumours.
                                                                                                                                                                                                                                                                                                                                                                      Alexander J, Bonnet MC, Diaz I;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MWLQSLLLLGTVACSISAPARSPSPSTQPWEHVNAIQEARRLLNLSRDTAAEMNETVEVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                    Recombinant poxvirus; biological response modifier; IL-12; GM-CSF; granulocyte macrophage colony stimulating factor; prevention; tumour; interleukin; cytokine; treatment.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                             Human granulocyte macrophage colony stimulating factor (GM-CSF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       77.2%; Score 586; DB 2; Length 144; 76.4%; Pred. No. 1.8e-55; active 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A J, COX B,
Klein MH;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure, Fig 9A-F; 52pp; English.
                                                                                                                                                                                                                                                                                           96US-0027530P.
                                                                                                                                                                                                                                                              97WO-CA000729
                                               (first entry)
                                                                                                                                                                                                                                                                                                                         (CONN-) CONNAUGHT LAB LTD (VIRO-) VIROGENETICS CORP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                      )M, Tartaglia
Paoletti E, B
                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 1998-240821/21.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                N-PSDB; AAV29700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 144 AA;
                                                                                                                                                                                                                                                                                                                                                                       Gajewczyk DM,
                                                                                                                                                                                                                                                              03-OCT-1997;
                                                                                                                                                                                                                                                                                            04-OCT-1996;
                                                                                                                                                                     Homo sapiens
                                               18-AUG-1998
                                                                                                                                                                                                   W09815635-A2
                                                                                                                                                                                                                                 16-APR-1998.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Recombinant
                                                                                                                                                                                                                                                                                                                                                                                       Cornet B,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                 AAW60031
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the
```

```
The present sequence represents part of a human GMCSF protein. It is used to produce fusion proteins with a human zalphall ligand. Zalphall ligand is a cytokine. The zalphall ligand is useful for stimulating the proliferation and development of hematopoietic cells in vitro and in vivo. Zalphall ligand polynucleotides can be used as primers or probes or cloning the zalphall gene. The zalphall ligand is useful for treating the zalphall ligand-saporin fusion toxin may be used for treating leukaemias and lymphomas. Antagonists against zalphall ligand are useful as research reagents for characterizing ligand-receptor interaction, Antagonists are also useful for inhibiting expansion, proliferation, activation and differentiation of cells involved in regulating hematopoiesis. The zalphall ligand may also be used to stimulate an immune response against B cell tumour, a virus, a parasite or a bacterium. The zalphall polypeptides, polynucleotides, antagonists, agonists and antibodies are also useful for the detection, diagnosis, prevention, and treatment of diseases associated with a zalphall ligand
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 SETFDABELITCLOTRIKLYKQGLRGSLIKLEGPLTWMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     New human cytokine, designated zalphall ligand, useful for stimulating the proliferation and/or development of hematopoietic cells in vitro and in vivo, and for treating tumorigenesis.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
zalphall ligand, cytokine, haematopoietic cell proliferation, lymphoma, tumourigenesis; leukaemia, hematopoiesis; B cell tumour; GMCSF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               , Foster DC, Holly Dillon SR, Hammond
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          77.2%; Score 586; DB 3; 76.4%; Pred. No. 1.8e-55; ive 15; Mismatches 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sprecher CA,
Nelson AJ, I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 KSFKKNLKDFLFEIPFDCWKPAOK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 :|||:|||||||
ESFKENLKDFLLVIPFDCWEPVOE 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Claim 10; Page 254; 256pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAB50871 standard; protein; 144 AA
                                                                                                                                                                                                                                                                                                                                                                                                   99US-00264908.
99US-00265992.
99US-0142013F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAB50871
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 12
AABSO871
ID AABSO
XX
AC AABSO
```

ö

AAB18633 standard; protein; 144 AA

g ò g ò (first entry)

22-JAN-2001

AAB18633 RESULT 11
AAB18633
ID AAB18
XX
AC AAB18
XX
DT 22-JA

```
The present sequence is given in a specification relating to polynucleotide and polypeptide molecules for mammalian secreted alpha helical protein-31 (zalpha31). The polypeptides are a novel four-helixx bundle cytokine and may be used to regulate the functioning of the immune system. The polypeptides are used to identify and isolate receptors involved in spermatogenesis, steroidogenesis, testicular differentiation and regulatory control of the hypothalamic-pituitary gonadal axis, thyroid, heart and adrenal function. They are useful for treating disorders of the reproductive system, thyroid, adrenal, heart and immune continuous systems. Zalpha31 polypeptides, or antagonists are useful in the treatment of e.g. osteoprosis, paget's disease, and hyperparathyroidism, acute pancreatitis and gastrointestinal disorders and as analgesics, especially for bone pain. They can be used to treat atherosclerosis, pelvic inflammatory disease, (PID), psoriasis, atherosclerosis, pelvic inflammatory disease. (PID), psoriasis, atheritis, eczema, scleroderma and other inflammatory diseases. The polypeptides, nucleic acids and/or antibodies can be used to treat heart transplantation, treat complications related to poor circulation e.g. diabetic foot ulcers, treat stroke, improve cardiac function, induce skeletal muscle neogenesis and/or hyperplasia, be used in kidney regeneration and/or for treating vistemic and pulmonary hypertension. Zalpha31 can be used for treating viral leukaemias, heart attach immunodeficiency syndrome (AIDS) or gastrointestinal viral
                                                                                                            granulocyte-macrophage colony simulating factor; GM-CSF; cytostatic; antiinflammatory; antiarthritic; antirheumatoid; immunosuppressive; antiasthmatic; antibacterial; osteopathic; antiatherosclerotic; antipsoriatic; dermatological; anti-HIV; gene therapy; osteoporosis; Paget's disease; hyperparathytordism; acute panoreatitis; gastrointestinal disorder; inflammation; heart disorder; viral infection.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Novel 4-helix bundle cytokine, Zalpha31, useful for regulating the function of immune system and for treating thyroid, adrenal, lymphoid, inflammatory; pancreatic, blood or bone disorders.
                                                                                         Human; zalpha31; alpha helical protein-31;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Disclosure; Page 107-108; 111pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                   26-MAY-2000; 2000WO-US014795.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 99US-0136485P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (ZYMO ) ZYMOGENETICS INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2001-070967/08.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 144 AA;
                                                                                                                                                                                                                                                                                                                       40200073458-A1
                                                                                                                                                                                                                                                                              Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 28-MAY-1999;
                                             Human GM-CSF
                                                                                                                                                                                                                                                                                                                                                                     07-DEC-2000.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             infections
```

```
ö
                                                                                                                                                                             SETFDAEELTCLOTRLKLYKOGLRGSLIKLEGPLTMMASHYKOHCPPTLETSCATOMITF 120
                                                                                                                                                                                                    9
                                                                                      1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV 60
                                                                                                               1 MWLQSLLLLGTVACSISAPARSPSPSTQPWEHVNAIQEARRLLNLSRDTAAAMETVEVI
                                             Gaps
                                             ;;
0
77.2%; Score 586; DB 4; Length 144; 76.4%; Pred. No. 1.8e-55; ive 15; Mismatches 19; Indels
                                               Matches 110; Conservative
                         Best Local Similarity
```

셤 ò

ö

9

1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV 

```
The specification describes a pharmaceutical composition, comprising a growth factor, an inhibitor agent, i.e. a protease. The inhibitor agent inhibites the action of at least one specific adverse protein, i.e. a protease, that is upregulated in a damaged tissue such as a wound environment. Growth factors which are included in the composition of the invention are platelet-derived growth factor (PDGF), fibroblast growth factor (EGF), connective tissue derived growth factor (EGF), factor (EGF), connective factor (EGF), ransforming growth factor (EGF), expidermal growth factor (EGF), vacular endothalial growth factor (VEGF), and chrysalin. Inhibitors which are included in the composition of the invention include inhibitors of urokinase-type plasminogen activator the treatment of chronic damaged tissue, i.e. wounds and dermal ulcers. The present sequence represents a human GM-CSF, and is used to produce the composition of the invention
                                                                                                                                                                                                                                                                      Growth factor; protein inhibitor; protease; damaged tissue; platelet-derived growth factor; FGF; connective tissue growth factor; FGF; connective tissue derived growth factor; CTGF; chrysalin; VEGF; keratinocyte-derived growth factor; KGF; epidermal growth factor; EGF; transforming growth factor-beta; TGF-beta; matrix metalloproteinase; MMP; granulocyte macrophage colony stimulating factor; CM-CSF; uPA; vascular endothelial growth factor; urokinase plasminogen activator;
                                                                                                                                                                                                                                       Amino acid sequence of granulocyte macrophage colony stimulating factor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Composition for the treatment of damaged tissue i.e. chronic wounds and dermal ulcers comprises an inhibitor agent i.e. a protease and a growth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Occleston NL;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    77.2%; Score 586; DB 4; 76.4%; Pred. No. 1.8e-55; iive 15; Mismatches 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Mcintosh FS,
                 121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Disclosure; Page 548; 572pp; English.
                                                                                                                           AAB84602 standard; protein; 144 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             21-DEC-2000; 2000WO-IB001935.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                99GB-00030768
                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity ...
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Davies MJ, Huggins JP,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2001-418351/44.
                                                                                                                                                                                                                                                                                                                                                                                                          dermal ulcer; wound
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (PFIZ ) PFIZER LTD.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-PSDB; AAH28217.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 144 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO200149309-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                29-DEC-1999;
                                                                                                                                                                                                     05-SEP-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .2-JUL-2001.
                                                                                                                                                                AAB84602;
                                                                                                                               셤
```

```
121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                      Sequence 144 AA;
                                                                                                                                                                                                                                                                                                                                   09-MAR-1999;
                                                                                                                                                                                                                                                                                                                                            11-MAR-1999;
01-JUL-1999;
                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                                                               US6307024-B1
                                                                                                                                     09-APR-2002
                                                                                                                                                                                                                                                                                     23-OCT-2001
                                                                                                                                                                                                                                                                                                                                                                                                    Novak JE,
Gross JA,
                                                                                                               AAU11977;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  present
                                                                    RESULT 15
                                                                                AAU11977
                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       The present invention describes a method for producing human granulocyte macrophage colony stimulating factor (hGM-CSF), where hGM-CSF having higher activity is easily purified. The method comprises: (a) preparing a fusion gene construct which contains a human origin glycoprotein gene linked with a bladder specific promoter, uroplakin II; (b) microinjecting the fusion gene construct into a fertilised egg; (c) transplanting the egg containing the fusion gene construct (KCTC 0723BP) into a surrogate mother; (d) producing a transformed animal from the surrogate mother; and help present inequence represents hGM-CSF which is referred to using the Genbank accession number X03021 in the exemplification of the present invention. N.B. The present is not given in the specification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SETFDAEELICLOTRLKLYKOGLRGSLIKLEGPLTMMASHYKOHCPPTLETSCATOMITF 120
                                  61 SEMFDLQEPTCLQTRLELYKQGLRGSLTKLKGPLTWMASHYKQHCPPTPETSCATQIITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
1 MWLQSLLLLGTVACSISAPARSPSTQPWEHVNAIQEARRLLNLSRDTAAEMNETVEVI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 SETFDAEELICLOTRLKLYKOGLRGSLIKLEGPLTWMASHYKOHCPPTLETSCATOMITF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Producing human granulocyte/macrophage colony-stimulating factor comprisen purifying the factor from the urine of a transformed animal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                        Human; granulocyte macrophage colony stimulating factor; GM-CSF; fusion gene; glycoprotein; bladder specific promoter; uroplakin II.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
                                                                                                                                                                                                                   Human granulocyte macrophage colony stimulating factor protein.
                                                                                                                                                                                                                                                                                                                                                                                                                            Lee JU, Park YI, Ryu JU;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 77.2%; Score 586; DB 5; Length 144; 76.4%; Pred. No. 1.8e-55; ive 15; Mismatches 19; Indels
                                                                                :|||:||:|||| ||:||:|| |:
ESFKENLKDFLLVIPFDCWEPVQE 144
                                                                    121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                             Kim TY,
                                                                                                                                                                                                                                                                                                                                                                                          BIO CLUE & SOLUTION CO LTD. KIM T Y.
                                                                                                                                                 ABB05055 standard; protein; 144 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Disclosure; Page; 20pp; Korean.
                                                                                                                                                                                                                                                                                                                                              03-FEB-2000; 2000KR-00005437.
                                                                                                                                                                                                                                                                                                                                                                     03-FEB-2000; 2000KR-00005437.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             76.48;
                                                                                                                                                                                                                                                                                                                                                                                                                             Kim MO,
                                                                                                                                                                                             (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                  2002-111646/15.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity
Matches 110; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                             Kim GE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                              N-PSDB; ABA92719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 144 AA;
                                                                                                                                                                                                                                                                                                  KR2001077563-A.
                                                                                                                                                                                                                                                                            Homo sapiens
                                                                                                                                                                                                                                                                                                                       20-AUG-2001.
                                                                                                                                                                                             26-MAR-2002
                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                             SJ,
                                                                                                                                                                       ABB05055;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                           (BIOC-)
                                                                                                                                                                                                                                                                                                                                                                                                      (KIMT/)
                                                                                                                                                                                                                                                                                                                                                                                                                             Byun
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                         g
                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                ò
                                                                 ò
```

```
The present integrated and the polymucleotide encoding it. The invention also gives the sequence for the zalphall receptor and the polymucleotide encoding it. The zalphall Ligand polypetide stimulates proliferation of natural killer (NK) cells or NK cells progenitors, the activation of NK cells, proliferation of T-cells, proliferation of B-cells stimulated with anti-CD40 antibodies, stimulates an antigenic response in a mammal, and reduces proliferation of B-cells stimulated with anti-IgM antibodies. The zalphall Ligand polypetide is also useful in preparing antibodies that bind to calphall Ligand epitopes. The zalphall Ligand polymucleotides can be used as probes or primers to clone regions of a zalphall Ligand gene, inhibitors of its activity, to enhance the generation of anti-tumour responses with or without the infusion of donor lymphocytes, and to activate or stimulate the immune system. The present sequence representing human GM-CSF (granulocyte macrophage-colony stimulating factor) polypetide can be used to create fusion proteins containing the near the human zalphall Ligand polypetide and from the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             New zalphall ligand polypeptides and polynucleotides, useful for
stimulating proliferation, activation, differentiation and/or induction
of inhibition of specialized cell function, or for stimulating an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 The present invention relates to the isòlation of a novel cytokine,
                                                                                                                                                                                                                                                                                              Cytokine; zalphall Ligand; zalphall receptor; NK cell progenitor; natural Killer cell proliferation; human; human; B-cell proliferation; anti-tumour response; immune system; GM-CSF; immunostimulant; granulocyte macrophage-colony stimulating factor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DC, Holly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               77.2%; Score 586; DB 5; Length 14 76.4%; Pred. No. 1.8e-55; ive 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CA, Foster DC
J, Dillon SR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Disclosure; Col 191-192; 105pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sprecher CA
Nelson AJ,
       Z
AAU11977 standard; protein; 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  99US-0123547P.
99US-0123904P.
99US-0142013P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             09-MAR-2000; 2000US-00522217.
                                                                                                                                                                                                                            Human GM-CSF polypeptide.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (ZYMO ) ZYMOGENETICS INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Presnell SR,
Johnston JV,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2002-040208/05.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
Matches 110; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 antigenic response.
```

```
6 6 6 6 6
```

0		•
F 120		OCT GETTO
ΤF	=	Ē
M		1
Ä	Ξ	Ė
ผู	=	٥
Ы	=	É
ř	_	CFC
PF	$\equiv$	200
Ĕ	Ξ	à
XX	=	Š
SH	=	Ü
ž	=	2
ξ	$\equiv$	É
LEGPL	=	į
Ä	<u></u>	7
4		ŀ
Š	_	WIT TOUGHTON
	Ξ	Ġ
₹	$\equiv$	ξ
ž	$\equiv$	
3		Ğ
걾	=	ē
ថ្ម	=	ξ
ដួ	Ξ	į
ΕĽ	_	۵
AE	••	Ć
Ë	=	5
61 SETFDAEELTCLQTRLK	=	SEMEDI. OF DEPT. OF DET. VE
19		֖֖ׅ֡֟֝֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֓֓֓֜֜֜֜֜֜֜֜֜֜֓֓֜֜֜֜֓֓֓֜֜֜֡֓֜֜֜֡֡֡֡֜֜֜֡

<sup>121</sup> KSFKKNLKDFLFEIPFDCWKPAQK 144
:|||:||||||||||||||11

Dp

Search completed: May 25, 2006, 14:55:49 Job time : 199 secs

DEST AVAILABLE COPY

GenCore version 5.1.8 Copyright (c) 1993 - 2006 Biocceleration Ltd.

- protein search, using sw model OM protein May 25, 2006, 14:56:07; Search time 39 Seconds Run on:

(without alignments)
355.262 Million cell updates/sec

US-10-614-481-9

Perfect score:

1 MWLQNLLLLGTVVYSMPAPT......KNLKDFLFEIPFDCWKPAQK 144 Sequence:

Gapop 10.0 , Gapext 0.5 **BLOSUM62** Scoring table:

283416 segs, 96216763 residues Searched:

283416 Total number of hits satisfying chosen parameters:

seq length: 0 seq length: 200000000 Minimum DB Maximum DB

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Database

PIR 80:\*
1: pir1:\*
2: pir2:\*
3: pir3:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed and is derived by analysis of the total score distribution.

	Description	granulocyte-macrop	hypothetical coile	acetylornithine am		acyl-CoA desaturas	acyl-CoA dehydroge	FUN21 protein - ye	probable receptor-	probable tRNA-guan	phage infection pr	DNA-directed DNA p	probable mitochond	hexose transport p	gene MSSP-2 protei	SREBP cleavage act	MAP kinase kinase		hypothetical prote	-Ĥ		hypothetical prote	3	DNA-directed DNA p						
SUMMARIES	ΠD	A61632	JH0469	FQHUGM	FQBOGM	A44936	FOMSGM	146269	T39964	F69476	B42543	F97707	G90465	S70294	E84429	A96556	F86833	T17675	G86383	S46724	S53612	T18526	T03022	B83695	G83901	A48653	836512	T20706	വ	A42543
	DB	-	7	٦	~			~	•	•	٦	•	7	7	~		7											7		Н
	Query Match Length	144	144	144	143	144	153	127	99	424	913	397	400	760	943	490	901	913	311	260	389	1276	1607	187	193	901	394	475	674	913
æ	Query Match	84.5	83.9	77.2	75.7	74.6	59.4	59.0	11.1	10.7	10.5	10.3	10.3	10.3	10.3	10.1	10.1	10.1	10.0	10.0	6.6	9.8	9.7	7.6	7.6	9.6	9.6	9.6	9.6	9.6
	Score	641	637	586	574.5	995	450.5	448	84.5	81.5	79.5	78.5	78.5	78.5	78.5	77	77	76.5	16	92	75	74.5	74	73.5	73.5	73	72.5	72.5	72.5	72.5
	Result No.	-	7	٣	4	ß	9	7	80	σ	10	11	12	13		15	16	17	18	19	20	21	22	23	24	25	56	27	28	29

histone H1 [import hypothetical prote	probable polyprote AND-1 protein - Af	xanthine dehydroge hypothetical prote	fusaric acid resis hypothetical prote	acetolactate synth helix-loop-helix p	mismatch repair pr DNA mismatch repai	DNA mismatch repai DNA mismatch repai	probable chitinase myosin VII-like pr
F84559 H81979	B96492 T30334	T10236 T30273	JS0512 G87536	F64334 A42220	S54525 D81522	C86608 G72017	D82246 A59233
0 0	~ ~	0 0	0,0	0 0	~ ~	~ ~	0 0
167	884 1127	1364	312	591 644	769	828 828	1088 2121
0.0 0.0	ພູຍ ຕິດ	ດ ດີດີ	4.4	4.4	0 0 4 4	0 0 4 4	0 0 4 4.
72	72	72	17	12.2	17	1,1	17
30	332	34 35	36	866	0 4	4 4 2 8	4 4 4 7

# ALIGNMENTS

_	
H	
ы	ı
<b>&gt;</b>	
ŝ	
ы	

RESULT 1
A61632
granulocyte-macrophage colony-stimulating factor precursor - sheep
Granulocyte-macrophage colony-stimulating factor precursor - sheep
Granulocyte-macrophage colony-stimulating factor precursor - sheep
Granulocyte-macrophage colony-stimulocyte-macrophage 09-Jul-2004
Gracession: A61632
Fig. Brion: A61632
A; Tatle: Cloning and sequencing of the cDNA for owine granulocyte-macrophage colony-stimulocyte-macrophage colony-stimulating factor
F;1-17/Domain: signal sequence #status predicted <SIG>

Gaps ö Length 144; 84.5%; Score 641; DB 1; Length 14 84.0%; Pred. No. 3.9e-54; ive 11; Mismatches 12; Indels Query Match
Best Local Similarity 84.08
Matches 121; Conservative

ö

9

1 MWLQNLLLLGTVVCSFSAPTRQPSPVTRPWQHVDAIKEALSLLNDSTDTAAVMDETVEVV 60 셤

1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV

ð

g

121 KSFKKNLKDFLFEIPFDCWKPAQK 144 ò

121 g

### RESULT JH0469

Granulcoyte-macrophage colony-stimulating factor precursor - sheep
NiAlternate names: colony-stimulating factor 2; GM-CSF
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Species: 0.1; Haig, D.M.
C;Accession: JH0469; S16730
R;McInnes, C.J.; Haig, D.M.
R;McInnes, C.J.; Haig, D.M.
A;Reference number: JH0469; MUID:92039044; PMID:1937025
A;Accession: JH0469
A;Accession: JH0469
A;Accession: JH0469
A;Residues: 1-144 <ACI>
A;Residues: 1-144 <ACI>
A;Coss-references: UNIPROT:P28773; UNIPARC:UP10000128522; GB:X53561; NID:g1800; PIDN<sub>3</sub>CA
C;Comment: This protein is a glycoprotein cycokine produced and secreted by various Cell
C;Superfamily: granulocyte-macrophage colony-stimulating factor

```
Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Molecule type: MUZPARC:UPI00000158DB, GB:M13207; NID:9181147; PIDN:AAA98768.1; PID:
B;Cantrell, M.A.; Anderson, D.; Cerretti, D.P.; Price, V.; McKereghan, K.; Tushinski, R.
B;Cantrell, M.A.; Anderson, D.; Cerretti, D.P.; Price, V.; McKereghan, K.; Tushinski, R.
A;Reference number: A25169; MUID:85298329; PMID:3898082
A;Accession: A25169
A;Accession: A251
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A; Molecule type: DNA
A; Residues: 1-144 <ANLY.
A; Residues: 1-144 <ANLY.
A; Residues: 1-144 <ANLY.
A; Cross-references: UNIPROT: P04141; UNIPARC: UPI00000358DB; EMBL: X03021; NID: 931858; PIDN R; Kaushansky, K.; O'Hara, P.J.; Berkner, K.; Segal, G.M.; Hagen, F.S.; Adamson, J.W.
R; Kaushansky, K.; O'Hara, P.J.; Berkner, K.; Segal, G.M.; Hagen, F.S.; Adamson, J.W.
A; Title: Genomic Sci. US.A. 83, 3101131013105, 1986
A; Title: Genomic cloning, characterization, and multilineage growth-promoting activity closed on number: 159065; MUID: 86205844; PMID: 3486413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PID:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A.; Clark, S.C. Science 228, 810-815, 1985
Science 228, 810-815, 1985
A;Title: Human GM-CSF: molecular cloning of the complementary DNA and purification of th
A;Reference number: A44175, MUID:85218749; PMID:3923623
A;Accession: A44175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Molecule type: mRNA
A;Residues: 1.116,'T', 118-144 <WON>
A;Residues: 1.116,'T', 118-144 <WON>
A;Cross-references: UNIPARC:UPI0000142467; GB:M10663; NID:g181145; PIDN:AAA52121.1; PID:
A;Note: parts of this sequence, including the amino end of the mature protein, were conf
R;Wen, D.Y.; Huang, B.R.; Cai, L.W.; Si, J.Y.
                                                                                         ₩,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Cross-references: UNIPARC:UPI00000358DB, GB:M11734; NID:g181149; PIDN:AAA52122.1; PID:
R;Lee, F.; Yokota, T.; Otsuka, T.; Gemmell, L.; Larson, N.; Luh, J.; Arai, K.; Rennick,
Proc. Natl. Acad. Sci. U.S.A. 82, 4360-4364, 1985
A;Title: Isolation of cDNA for a human granulocyte-macrophage colony-stimulating factor
A;Reference number: A01853; MUID:85242684; PMID:3925454
A;Molecule type: mRNA
A;Molecule type: mRNA
A;Residues: 1-144 <LEE>
A;Cross-references: UNIPARC:UPI00000358DB; GB:M11220; NID:g183363; PIDN:AAA52578.1; PID:
R;Wong, G.G.; Witek, J.S.; Temple, P.A.; Wilkens, K.M.; Leary, A.C.; Luxenberg, D.P.; JG
C; Keywords: cytokine; glycoprotein; growth factor; macrophage; monomer; T-cell F;1-17/Domain: signal sequence #status predicted <SIG> F;18-144/Product: granulocyte-macrophage colony-stimulating factor #status predicted F;44/Binding :: terbohydrate (Asn) (covalent) #status predicted
                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SETFOAEBLICLOTRLKLYKOGLRGSLIKLEGPLTMMASHYKOHCPPTLETSCATOMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 SEMPDSQEPTCLQTRLELYKQGLRGSLTGSLTGSLTMMASHYKKHCPPTQETSCETQIITF 120
                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MWLQNLLLLGTVVCSFSAPTRQPSPVTRPWQHVDAIKEALSLLNDSTDTAAVMDETVEVV
                                                                                                                                                                                                                                                                                                                                                                                            1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                      Length 144;
                                                                                                                                                                                                                                                                                                           13; Indels
                                                                                                                                                                                                                           Score 637; DB 2;
Pred. No. 9.4e-54;
                                                                                                                                                                                                                                                                                                           11; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                           83.9%;
                                                                                                                                                                                                                                                                                                           Matches 120; Conservative
                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A; Accession: I59065
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Accession: C24636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      윱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ਨੇ
```

```
Former than the colony-stimulating factor precursor - bovine
NyAlternate names: colony-stimulating factor 2; GM-CSF
Cippedies: Bos primigenius taurus (cattle)
Cipate: 31-Mar-1989 #sequence_revision 31-Mar-1989 #text_change 09-Jul-2004
Cjaccession: JL0037
Cjaccession: JL0037
Cjaccession: JL0037
Cjaccession: JL0037
Cjaccession: JL0037
Mol. Immunol. 25, 843-850, 1988
AjTitle: Bovine GM-CSF: molecular cloning and biological activity of the recombinant prot AjReference number: JL0037; MUD:89096971; PMID:3062386
AjReference number: JL0037; MUD:89096971; PMID:3062386
AjReference number: JL0037; MUD:89096971; PMID:3062386
AjReference: JL143 *AML>
AjResidues: 1-143 *AML>
AjResidues: JL143 *AML>
AjResidues: JL144 *ARL>
AjResid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A)Description: stimulates the differentiation and proliferation of hematopoietic progenit C; Superfamily: granulocyte-macrophage colony-stimulating factor C; Superfamily: granulocyte-macrophage colony-stimulating factor for C; Superfamily: growth factor; macrophage; monomer; T-cell F;1-17)Domain: signal sequence #status predicted <SIG>F;1-17,Domain: signal sequence #status predicted colony-stimulating factor #status experimental · F;18-144,Fyroduct: granulocyte-macrophage colony-stimulating factor #status experimental · F;44,54/Binding site: carbohydrate (Asn) (covalent) #status predicted
                                                                Ψż
Acta Biochim. Biophys. Sin. 25, 651-655, 1993
A;Title: Amplification of human granulocyte-macrophage colony-stimulating factor cDNA A;Reference number: JC1090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 SEMFDLOEPTCLQTRLELYKQGLRGSLTKLKGPLTMMASHYKQHCPPTPETSCATQIITF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 SETFDAEELTCLOTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60 SEKFDSQEPTCLQTRLKLYKNGLQGSLTSLMGSLTWMATHYEKHCPPTPETSCGTQFISF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MWLQNLLLLGTVVCSFSAPTRPPNTATRPWQHVDAIKEALSLLNHSSDTDAVMNDT-EVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKBALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 1; Length 143;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       77.2%; Score 586; DB 1; Length 14 76.4%; Pred. No. 7.1e-49; Live 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 18; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                75.7%; Score 574.5; DB 1
75.7%; Pred. No. 8.9e-48;
iive 16; Mismatches 18
                                                                                                                                                       A; Accession: JC1090
A; Molecule type: protein
A; Residues: 18-21, 'C', 23-96, 'L', 98-144 < WEN>
A; Cross-references: UNIPARC:UP1000017368E
C; Genetics:
A; Gene: GDB:CSF2
A; Cross-references: GDB:119812; OMIM:138960
A; Map position: 5423.2-5431.1
A; Introns: 53/3; 67/3; 109/3
C; Function:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 KSFKKNLKDFLFEIPFDCWKPAOK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     :|||:|||||| |||||:|| |:
121 ESFKENLKDFLLVIPFDCWEPVQE 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local Similarity 75.7 nes 109; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best_Local Similarity 76.4
Matches 110; Conservative
```

m

```
A Molecule type: DNA
A, Residues: 13-150, 'G', 152-153 «STA»
A, Cross references: UNIPARC: UPI000002164F; GB:X03020; NID:G51098; PIDN:CAA26821.1; PID:G5
A, Cross reference mumber: A24644; MUID:86030236; PMID:3902470
A, Reference mumber: A24644; MUID:86030236; PMID:3902470
A, Reference mumber: A24644
A, Molecule type: mRNA
A, Residues: 13-153 * DEL-
A, Residues: 13-153 * DEL-
A, Residues: NNIPARC: UPI000016615F; GB:X03019; NID:G51100; PIDN:CAA26820.1; PID:G5
B, Gough, N.M.; Gough, J.; Metcalf, D.; Kelso, A.; Grail, D.; Nicola, N.A.; Burgess, A.W.;
Nature 309, 763-767, 1384
A, Fittle: Molecular cloning of CDNA encoding a murine haematopoietic growth regulator, gre
A, Reference number: A01854; MUID:84245825; PMID:6610831
                                                                                                                                                                                                                                                                                                                                                                                                                                           A;Accession: I46269
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Rolecule type: mRNA
A;Rolecule type: mRNA
A;Rolecule type: UNIPROT:P48750; UNIPARC:UPI000004361B; EMBL:U00620; NID:g392779; PIDP
C;Superfamily: granulocyte-macrophage colony-stimulating factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  stimulating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              70 SNEFSPKKLICVQTRLKIFEQGLRGNFTKLKGALNMTASYYQTYCPPTPETDCETQVTTY 129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         granulocyte-macrophage colony stimulating factor - rat (fragment)
C;Species: Rattus norvegicus (Norway rat)
C;Dates: 14-Fe-1997 #sequence_revision 14-Fe-1997 #text_change 09-Jul-2004
C;Accession: 146269
R;Smith, L.R.; Lundeen, K.A.; Diveley, J.P.; Carlo, D.J.; Brostoff, S.W.
Immunogenetics 39, 80, 1999
A;Fitle: Nucleotide sequence of the Lewis rat granulocyte-macrophage colony A;Reference number: 146269; MUID:94041474; PMID:8225444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                13 MMLQNLLFLGIVVYSLSAPTRSPITVTRPWKHVBAIKEALNLLD---DMPVTLNEEVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 1; Length 153;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 127;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              59.4%; Score 450.5; DB 1; Length 59.7%; Pred. No. 7.2e-36; Live 22; Mismatches 33; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 448; DB 2;
Pred. No. 1e-35;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           130 ADFIDSLKTFLTDIPFECKKPVQK 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  59.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity 59.7
les 86; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Si
Matches 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                  granulocyte-macrophage colony-stimulating factor precursor - dog
C;Species: Canis lupus familiaris (dog)
C;Date: 17-Feb-1994 #sequence_revision 17-Feb-1994 #text_change 09-Jul-2004
C;Accession: A44336
R;Nash, R.A; Schuening, F.; Appelbaum, F.; Hammond, W.P.; Boone, T.; Morris, C.F.; Slid
Blood 78, 930-937, 1991
A;Title: Molecular cloning and in vivo evaluation of canine granulocyte-macrophage colon
A;Reference number: A44936; MUID:91329842; PMID:1868252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A;Molecule type: mRNA
A;Residues: 13-153 <RE2>
A;Residues: 13-153 <RE2>
A;Residues: 13-153 <RE2>
A;Cross-references: UNIPARC:UPI000016615F; EMBL:X02333; NID:g51103; PIDN:CAA26193.1; PID
R;Miyatake, S.; Otsuka, T.; Yokota, T.; Lee, F.; Arai, K.
EMBO J. 4, 2561-2568, 1985
A;Title: Structure of the chromosomal gene for granulocyte-macrophage colony stimulating
A;Reference number: A91015; MUID:86030234; PMID:3876930
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Molecule type: DNA; mRNA
A;Residues: 13-150, 'G',152-153 <MIY>
A;Cross-references: UNIPARC:UPI00002164F; GB:X03020; NID:g51098; PIDN:CAA26821.1; PID:g
A;Orce: the sequence translated from the mRNA differs from that of the DNA in having 151
R;Stanley, E.; Metcalf, D.; Sobieszczuk, P.; Gough, N.M.; Dunn, A.R.
EMBO J. 4, 2569-2573, 1985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Title: The structure and expression of the murine gene encoding granulocyte-macrophage A;Reference number: A24645; WUID:86030235; PMID:3876931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Cross-references: UNIPROT:P01587; UNIPARC:UP1000016CD8F; EMBL:X02333; NID:951103; PIDN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A;Cross-references: UNIPROT.P48749; UNIPARC:UP1000012851D; GB:S49738; NID:g233566; PIDN A;Note: sequence extracted from NCBL Dackbone (NCBIN:49738, NCBIP:49739) C;Superfamily: granulocyte-macrophage colony-stimulating factor F;1-17/Domain: signal sequence #status predicted <SIG>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         granulocyte-macrophage colony-stimulating factor precursor - mouse
N;Alternate names: colony-stimulating factor 2; GM-CSF; integral membrane protein
C;Species: Mus musculus (house mouse)
C;Date: 28-Aug-1985 #sequence_revision 13-Mar-1997 #text_change 09-Jul-2004
C;Accession: 148368; 148369; A24636; A24644; A01844; A21882
R;Gough, N.M.; Metcalf, D.; Gough, J.; Grail, D.; Dunn, A.R.
A;Title: Structure and expression of the mRNA for murine granulocyte-macrophage colony
A;Reference number: 148368; MUD:85230531; PMID:3874057
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 74.6%; Score 566; DB 2; Best Local Similarity 73.6%; Pred. No. 5.9e-47; Matches 106; Conservative 16; Mismatches 22;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-153 <RES>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Accession: 148369
Status: preliminary; translated from GB/EMBL/DDBJ
KNFKEDLKEFLFIIPFDCWEPAQK 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                       A, Accession: A44936
A, Status: preliminary
A, Molecule type: mRNA
A, Residues: 1-144 <NAS>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Accession: A24636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 6
  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
```

```
A;Gene: aco.
C;Superfamily: acyl-CoA desaturase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Sim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        acetyjornithine aminotransferase (argD-2) homolog - Archaeoglobus fulgidus C;Species: Archaeoglobus fulgidus C;Species: Archaeoglobus fulgidus C;Species: Archaeoglobus fulgidus C;Date: 05-Dec-1997 #sequence_revision 05-Dec-1997 #text_change 09-Jul-2004 C;Accession: F63476

C;Accession: F63476

Fixed Fixed
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A,Cross-references: UNIPROT:P56969; UNIPARC:UP10000056B9F; GB:AE000977; GB:AE000782; NIC
C;Superfamily: beta-alanine-pyruvate transaminase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Cross-references: UNIPROT:060187; UNIPARC:UPI0000135984; EMBL:AL023779; PIDN:CAA19316; Experimental source: strain 972h-; cosmid c244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 C,Accession: T39964
R,Lyne, M.; Wood, V.; Rajandream, M.A.; Barrell, B.G.; Wedler, H.; Wambutt, R.; Wedler, submitted to the EMBL Data Library, June 1998
   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  6
                                                                                                                                                                                                                                                           61 LYKQGLRGNLTKLNGALTWIASHYQTNCPPTPETDCEIEVTTFEDFIKNLKGFLFDIPFD 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         248 LONRNVHLETVPESYPVPPSGYPLTSSTCVSSISQPIQSTDCQKAQENLSNNKQMSSNDQ 307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ----0I 348
                                                                                                                                                                                                                  78 LYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITFKSFKKNLKDFLFEIPFD 137
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3 LQNL-LLLGTVVYSMPAP-----TRQPSPVTRPWQHVDAIKEALSLLNN---SSDTA 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                77
                                                                                                                        A;Status: preliminary; nucleic acid sequence not shown; translation not shown A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        nypothetical coiled-coil protein - fission yeast (Schizosaccharomyces pombe)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C;Species: Schizosaccharomyces pombe
C;Date: 03-Dec-1999 #sequence_revision 03-Dec-1999 #text_change 09-Jul-2004
                                                                           18 APTROPSPVTRPWOHVDAIKEALSLLNNSSDTAAIMNETVEVVSETFDAEELICLOTRLK
   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels 51;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       11.1%; Score 84.5; DB 2; Length 660; 24.2%; Pred. No. 4.4; tive 22; Mismatches 52; Indels 51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       308 DİDPFKQAITDLPPSFVNIVLEMNATIQSLSNQ------CQQRDK--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EGPLTMMASHYKQHCPPTLETSCATQMITFKSFKKNLKDFLFEIP 135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | : ::|| |: || |: || ENITKQLLANQQDYCPTTMSTTVSTPLCPPKRFPKSTKDFKEQKP 393
   29; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: DNA
16; Mismatches
       Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  40; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A, Reference number: Z21894
A, Accession: T39964
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                    CWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                    CWKPVQK 127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A; Gene: SPDB: SPBC244.01c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   A; Residues: 1-424 < KLE>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Residues: 1-660 < LYN>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A; Map position: 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A; Introns: 39/1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  91
                                                                                                                                                                                                                                                                                                                                                                138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches
   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                         유
                                                                                                                                                                                                                                                                                                                                                                                                                        ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                        g
                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                            ò
```

```
D.; Rot
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A,Cross-references: UNIPROT:Q92JK5; UNIPARC:UPI00000CBC8D; GB:AE006914; PIDN:AAL02600.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         acyl-CoA desaturase 1 [imported] - Rickettsia conorii (strain Malish 7)
C;Species: Rickettsia conorii
C;Date: 30-Sep-2001 #sequence_revision 30-Sep-2001 #text_change 05-Oct-2004
C;Date: 30-Sep-2001 #sequence_revision 30-Sep-2001 #text_change 05-Oct-2004
C;Accession: F97707
R;Ogata, H.; Audic, S.; Renesto-Audiffren, P.; Fournier, P.B.; Barbe, V.; Samson, I.
A;Citle: Mechanisms of Evolution in Rickettsia conorii and Rickettsia prowazekii.
A;Reference number: A97700; MUID:21442074; PMID:11557893
A;Accession: F97707
A;Actus: preliminary
A;Molecule type: DNA
A;Residues: 1-397 <KUR>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ä
                                               8
                                                                                                              209 PEDFYRRVREICD--EKGCLMIMDEVQTGL-----GRTGKMWGIE------HYKV-VP 252
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      21 ROPSPVTRPWOHVDAIKEALSLINNSSDTAAIMNETVEVVSETFDAEELTCLOTRLKLYK
                                                                                                                                                                         60 -----VSETFDABELTCL-----QTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCP
                                                                                        7 LLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEV-----
                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     23;
                                               45;
Query Match 10.7%; Score 81.5; DB 2; Length 424; Best Local Similarity 27.3%; Pred. No. 5.1; Matches 42; Conservative 15; Mismatches 52; Indels 4!
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 913;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          10.3%; Score 78.5; DB 2; Length 397; 24.8%; Pred. No. 9.1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     35; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 1;
                                                                                                                                                                                                                                                                  107 PTLET----SCATQMITFKSFKKNLKDFLFEIPF 136
                                                                                                                                                                                                                                                                                                        253 DVIVTAKGLSGGVYPİSATCFKEGLDDFMAENPF 286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   81 QGLRGSLIKLEGPLTMMASHYKQHCPPTLETS 112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            777 TG---------YKNECOPHLHVS 790
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10.5%; Score 79.5;
ilarity 28.3%; Pred. No. 19
Conservative 8; Mismatche
```

S

```
Drobable receptor-like protein kinase [imported] - Arabidopsis thaliana Crobable receptor-like protein kinase [imported] - Arabidopsis thaliana (mouse-ear cress)
C;Species: Arabidopsis thaliana (mouse-ear cress)
C;Species: Peb-2001 #sequence_revision 02-Feb-2001 #text_change 31-Dec-2004
C;Accession: E84439
R;Lin, X.; Kaul, S.; Rounsley, S.D.; Shea, T.P.; Benito, M.I.; Town, C.D.; Fujii, C.Y.; h.; Koo, H.; Moffat, K.S.; Cronin, L.A.; Shen, M.; VanAken, S.E.; Umayam, L.; Tallon, L.; Raure 402, 761-768, 1999
A;Title: Sequence and analysis of chromosome 2 of the plant Arabidopsis thaliana.
A;Reference number: A84420; MUID:20083487; PMID:10617197
A;Actus: preliminary
A;Actus: preliminary
A;Actus: preliminary
A;Actus: preliminary
A;Actus: preliminary
A;Actus: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A,Cross-references: UNIPROT:Q9SIT1; UNIPARC:UP100000A814B; GB:AE002093; NID:g4522003; PII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    C;Superfamily: Receptor-like protein kinase; leucine-rich alpha-2-glycoprotein repeat hon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           probable tRNA-guaninine transglycosylase [imported] - Arabidopsis thaliana C;Species: Arabidopsis thaliana (mouse-ear cress) C;Species: Arabidopsis thaliana (mouse-ear cress) C;Abte: 0.0-Mar-2001 #sequence_revision 02-Mar-2001 #text_change 31-Dec-2004 C;Accession: A96556 R;Theologis, A.; Ecker, J.R.; Palm, C.J.; Federspiel, N.A.; Kaul, S.; White, O.; Alonso,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              71 CLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQ----HCPPTLETSCATQMITFKS---- 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         653 IKRVRF----AGV-PPMTEAENPKPTKVGWYKKPAVLHYPP-IPASAMIKPLQHKSKYNT 706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15 SMPAPTRQ----PSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVVSETFDAEELT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                29 PWQHVDAIKEALSLLNNSSDTAAIMNETVEVVSETFDAEELTCLQTRLKLYKQGLRGSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                      A; Molecule type: DNA
A; Residues: 1-96, KVP', 104,'A', 106,'SIPADKAK', 115,'SAAEI', 121,'N' <BUF>
A; Residues: 1-96, KVP', 104,'A', 106,'SIPADKAK', 115,'SAAEI', 121,'N' <BUF>
A; Crosa-references: UNIPARC:UP100001792FA; EMBL:U12980
A; Mole: this sequence has been revised in reference $70291
C; Genetics: SGD:WIN21
A; Genetics: SGD:S0000029; MIPS:YAL031C
A; Molec: SGD:S0000029; MIPS:YAL031C
A; Molec: A; Molec: Tensus membrane Fucus predicted <TM1>
C; Superfamily: Saccharomyces cerevisiae FUN21 protein
C; Superfamily: Saccharomyces the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of the factor of
                 A;Cross-references: UNIPARC:UP100001792F9; #MBL:U12980; MIPS:YAL031c A;Note: this sequence has been revised in reference S70291 A;Accession: S53563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      29;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ouery Match 10.3%; Score 78.5; DB 2; Length 760; Best Local Similarity 27.0%; Pred. No. 20; Matches 37; Conservative 23; Mismatches 48; Indels 23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 2; Length 943;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            23; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 10.3%; Score 78.5; D
Best Local Similarity 35.6%; Pred. No. 25;
Matches 21; Conservative 10; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      123 ----- FKKNLKDFL 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |:|:|:| |
707 LRQEEGFTFRKSLRDGL 723
    Residues: 127-760 <BUS>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Residues: 1-943 <STO>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A;Gene: At2g01820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     A; Map position:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C; Genetics:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A;Molecule type: DNA
A;Residues: 1-760 <000>
A;Cross-references: UNIPROT: P39732; UNIPARC: UP1000013A02E; EMBL: U12980; NID:g1326053; PI
R;Bussey, H.; Kaback, D.B.; Zhong, W.; Vo, D.T.; Clark, M.W.; Fortin, N.; Hall, J.; Ouel
R;Bussey, H.; Kaback, D.B.; Zhong, W.; Vo, D.T.; Clark, M.W.; Fortin, N.; Hall, J.; Ouel
R;Bussey, H.; Kaback, D.B.; Zhong, W.; Vo, D.T.; Clark, M.W.; Fortin, N.; Hall, J.; Ouel
R;Bubmitted to the EMBL Data Library, August 1994
A;Description: The sequence of chromosome 1 of Saccharomyces cerevisiae.
A;Reference number: S51956
A;Accession: S51989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             acyl-CoA dehydrogenase (acd-6) [imported] - Sulfolobus solfataricus
C;Species: Sulfolobus solfataricus
C;Species: Sulfolobus solfataricus
C;Species: Sulfolobus solfataricus
C;Species: Sulfolobus solfataricus
C;Accession: G90465
R;She, Q.; Singh, R.K.; Confalonieri, F.; Zivanovic, Y.; Allard, G.; Awayez, M.J.; Chan-Jong, I.; Jeffries, A.C.; Kozera, C.J.; Medina, N.; Peng, X.; Thi-Ngoc, H.P.; Redder, F submitted to GenBank, April 2001
A;Description: Sulfolobus solfataricus complete genome.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Molecule type: DNA
Residues: 1-400 <KUR>
Cross-references: UNIPROT:Q97UW6; UNIPARC:UP10000648A2; GB:AE006641; NID:g13816236;
    6
                                                                                                                                                                                                                                                                                                   282 KVRIQAKMQETLNYLSEK-QKQKLTLMQTKIDHLLENLCLKIKELEESSITIKEQFKKSF 340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              286
                                                                                                                                                               226 IWWMALFLLGENWHNYHHAFPSDYRNGA----KWYHLDVHKWIIFLMSKIGLASELERTT 281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     63 TFDAEE-----LTCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCA 114
                                                                                    48
                                                                                                                                                                                                                                                       87
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FUN21 protein - yeast (Saccharomyces cerevisiae)
N;Alternate names: protein YAL031c
C;Species: Saccharomyces cerevisiae
C;Date: 06-Sep-1996 #sequence revision 06-Sep-1996 #text_change 09-Jul-2004
C;Accession: S70294; S51989; $53563
                                                                                                                                                                                                                                                   49 ---TAAIMNETVEVVSETFDAEELTCLOTR------LKL-----YKOGLRGSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             175 YVVTARTSPPEPNARWKGISMFIVEREWKGVKVLNRIETMGLRASNTAELAFEDVEVPAE
                                                                                    MWLQNLLLLG----TVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNN---SSD----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             14 YSMPAPTRQPSP-----VTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVVSE
    Gaps
    49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     235 NLLGEEGNGFKYAMATFDRTRVGVAAQĠVGVAQAALERMVTYSTQRFAFQSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10.3%; Score 78.5; DB 2; Length 400; 22.9%; Pred. No. 9.2; ive 23; Mismatches 56; Indels 29
45; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                :::: | :| :| | | | | | | | | | | | 341 VEIQESLKNLAE------QVSAATQ-ITEKSSEKLLK 370
                                                                                                                                                                                                                                                                                                                                                                                                                      IKLEGPLTMMASHYKQHCPPTLETSCATQMITFKSFKKNLK 128
27; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        R;VO, D.
Bubmitred to the EMBL Data Library, April 1996
A;Reference number: S70291
A;Recession: S70294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             115 TOMITEKSFKKNLKDFLFEI 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              :| |: :: : | |:
287 --LIGFQMVQEKIAESLTEV 304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Superfamily: acyl-CoA dehydrogenase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local Similarity 22.9%
Matches 32; Conservative
40; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A; Accession: G90465
A; Status: preliminary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A;Molecule type: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                      88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      acd-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ;Genetics:
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .ξ
                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
```

```
Chin, C.W.; Chung, M.K.; Conn, L.; Conway, A.B.; Conway, A.R.; Creasy, T.H.; Dewar, K.; ansen, N.F.; Hughes, B.; Huizar, L.
Nature 408, 816-820, 2000
A;Authors: Huntor, J.L.; Jenkins, J.; Johnson-Hopson, C.; Khan, S.; Khaykin, E.; Kim, C.
C.A.; Li, J.H.; Li, Y.; Lin, X.; Liu, S.X.; Liu, Z.A.; Luros, J.S.; Maiti, R.; Marziali, Rizzo, M.; Roonsy, T.; Rowley, D.; Sakano, H.
A;Authors: Salzaberg, S.L.; Schwartz, J.R.; Shinn, P.; Southwick, A.M.; Sun, H.; Tallon, ker, M.; Wu, D.; Yu, G.; Fraser, C.M.; Venter, J.C.; Davis, R.W.
A;Title: Sequence and analysis of chromosome 1 of the plant Arabidopsis.
A;Reference number: A86141; MuID:21016719; PMID:11130712
A;Accession: A96556
A;Status: preliminary
A;Residues: 1-490
A;Residues: 1-490
A;Cross-references: UNIPROT:Q9C8H9; UNIPARC:UPI00000A4D88; GB:AE005173; NID:g11094755; F
C;Genetics:
A;Genetics:
A;Genetic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             191 WTQ---LLYTLSQSLKAPTSS------EGADAVKALFGVNLQSRIKLGVLDNVTDSTV 239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240 ISKCTLHCQESGEESSETESVYSLKCHISHEVNHLHEGL---KHGLKGELEKTSPALGRT 296
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ----ALSLINNSSDTAA 51
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             52 I -----MNETVEVVSETFDAEELTC-----LQTRLKLYKOGLRGSLIKLEGPLTMM 97
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
10.1%; Score 77; DB 2; Length 490;
Best Local Similarity 26.6%; Pred. No. 16;
Matches 38; Conservative 14; Mismatches 53; Indels 38; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 WLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKE--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
```

Search completed: May 25, 2006, 15:01:36 Job time : 41 secs

98 ASHYKQHCPPTLETSCATQMITF 120 | : |: |: | ALYVKESLIDSLPRYLTVQFVRF 319

297

셤

```
Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Result
                                                                                                                                                                                                 May 25, 2006, 15:01:52 ; Search time 599 Seconds (without alignments) 367.081 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pending Patents AA Main:*

1: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG66_COMB.pep:*

2: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG66_COMB.pep:*

3: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG76_COMB.pep:*

4: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG76_COMB.pep:*

5: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG76_COMB.pep:*

6: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG76_COMB.pep:*

7: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG76_COMB.pep:*

8: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG76_COMB.pep:*

10: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG76_COMB.pep:*

11: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG86_COMB.pep:*

12: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG86_COMB.pep:*

13: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG86_COMB.pep:*

14: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG86_COMB.pep:*

15: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG86_COMB.pep:*

16: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG86_COMB.pep:*

17: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG86_COMB.pep:*

18: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG86_COMB.pep:*

19: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG86_COMB.pep:*

10: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG86_COMB.pep:*

10: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG86_COMB.pep:*

11: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG86_COMB.pep:*

12: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG96_COMB.pep:*

13: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG96_COMB.pep:*

14: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG96_COMB.pep:*

15: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG96_COMB.pep:*

16: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG96_COMB.pep:*

17: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG96_COMB.pep:*

18: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG96_COMB.pep:*

19: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG96_COMB.pep:*

10: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG96_COMB.pep:*

10: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG96_COMB.pep:*

11: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG96_COMB.pep:*

12: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG96_COMB.pep:*

13: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG96_COMB.pep:*

14: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG96_COMB.pep:*

15: FEMC_Celerra_SIDS3/ptodatea/2/paa/USG96_COMB.pep:*

16: FEMC_Ce
                                                                                                                                                                                                                                                                                                                                            US-10-614-481-9
759
1 MWLQNLLLLGTVVYSMPAPT.......KNLKDFLFEIPFDCWKPAQK 144
GenCore version 5.1.8
Copyright (c) 1993 - 2006 Biocceleration Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8366291 segs, 1526956180 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                       protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         seq length: 0
seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                Title:
Perfect score:
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Minimum DB E
Maximum DB E
                                                                                                                                          OM protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Database
                                                                                                                                                                                                         Run on:
```

```
Sequence 9, Appli
Sequence 10, Appl
Sequence 98077, A
Sequence 55369, A
Sequence 15, Appl
Sequence 15, Appl
Sequence 8259, A
Sequence 8259, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 18, Appl
Sequence 14, Appl
Sequence 163, App
Sequence 24, Appl
Sequence 7, Appli
Sequence 11, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           112, Appl
114, App
18, Appl
                                                                                                                                                                                     Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 12, P
Sequence 114, P
Sequence 18, Ap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 17,
Sequence 15,
Sequence 553(
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 217,
Sequence 15,
Sequence 3931
Sequence 18,
                                                                                                                                                                                                                                                                                                                                                               Sequence 8,
Sequence 8,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 11,
             /EMC_Celerra_SIDS3/ptodata/2/paa/US600_COMB_pep:

/EMC_Celerra_SIDS3/ptodata/2/paa/US601_COMB_pep:

/EMC_Celerra_SIDS3/ptodata/2/paa/US602_COMB_pep:

/EMC_Celerra_SIDS3/ptodata/2/paa/US603_COMB_pep:

/EMC_Celerra_SIDS3/ptodata/2/paa/US604_COMB_pep:

/EMC_Celerra_SIDS3/ptodata/2/paa/US605_COMB_pep:

/EMC_Celerra_SIDS3/ptodata/2/paa/US605_COMB_pep:

/EMC_Celerra_SIDS3/ptodata/2/paa/US607_COMB_pep:

/EMC_Celerra_SIDS3/ptodata/2/paa/US607_COMB_pep:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                             Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
Celerra_SIDS3/ptodata/2/paa/US114_COMB.
                                                                                                                                                                                                                                                                                                                                                           S US-09-587-964-8

S US-10-614-481-9

S US-11-301-800-10

US-11-301-800-10

US-09-791-537-58369

US-09-791-537-69622

US-09-791-537-82598

US-11-301-800-114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PCT-USO2-40691-448
PCT-USO2-40691-540
PCT-USO2-40691-540
PCT-USO3-12946-2460
PCT-USO3-12946-2460
PCT-USO3-12946-2460
PCT-USO3-12946-18
PCT-USO3-12974-18
PCT-USO3-12974-18
PCT-USO4-11524-163
PCT-USO4-11524-163
PCT-USO4-11524-163
PCT-USO4-11524-163
PCT-USO5-00518-24
US-08-284-3934-11
US-08-284-3934-11
US-09-726-295-15
US-09-726-295-15
US-09-726-295-15
US-09-726-295-15
US-09-726-295-15
US-09-726-295-15
US-09-726-295-15
US-09-726-295-15
US-09-726-295-15
US-09-726-295-15
US-09-726-295-15
US-09-726-295-15
US-09-726-295-15
US-09-726-295-15
US-09-726-295-18
US-10-110-205E-39311
US-10-110-205E-39311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-410-930-18
US-10-410-945-18
US-10-410-962-18
US-10-410-980-18
                                                                                                                                                                                                                                                                   SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PCT-US02-34
PCT-US02-34
                                                                                                                                                                                                                                                                                                                           四
                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                       Query
Match 1
                                                                                                                                                                                                                                                                                                                                                               100.0
100.0
```

## ALIGNMENTS

RESULT 1 18-08-187-964-8 'Sequence 8, Application US/09587964 'GENERAL INFORMATION:

```
LENGTH: 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ⋧
                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                    61 SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTWMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MMLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                  1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                 1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ó,
                                                                                                                                                                                                                                                                                                                         ô
                                                                                                                                                                                                                                                                                  100.0%; Score 759; DB 25; Length 144; 100.0%; Pred. No. 4.3e-77; ative 0; Mismatches 0; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 100.0%; Score 759; DB 25; Length 144; Best Local Similarity 100.0%; Pred. No. 4.3e-77; Matches 144; Conservative 0; Mismatches 0; Indels 0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:

GENERAL INFORMATION:

APPLICANT: Fischer, et al.

TITLE OF INVENTION: IMPROVED DNA VACCINES FOR PETS

FILE REFERENCE: 454313-2530.1

CURRENT APPLICATION NUMBER: US/09/587,964A

CURRENT FILING DATE: 2000-06-06

PRIOR APPLICATION NUMBER: US 60/144,490

PRIOR FILING DATE: 1999-07-19

NUMBER OF SEQ ID NOS: 83

SOFTWARE: PatentIn version 3.0

SEQ ID NO 8
APPLICANT: Fischer, et al.

TITLE OF INVENTION: IMPROVED DNA VACCINES FOR PETS FILE REFERENCE: 454313-2530.1

CURRENT APPLICATION NUMBER: US 60/957,964

CURRENT FILING DATE: 2000-06-06

PRIOR APPLICATION NUMBER: US 60/144,490

PRIOR APPLICATION NUMBER: 1999-07-19

STORYARE: Patentin version 3.0

SEQ ID NO 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 3
US-10-614-481-9
Sequence 9, Application US/10614481
SEBURAL INFORMATION:
APPLICANT: Bublot, et al.
                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity 100.0
Matches 144; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; TYPE: PRT
; ORGANISM: Equus sp.
US-09-587-964A-8
                                                                                                                                                                                                                            ; ORGANISM: Equus sp. US-09-587-964-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-587-964A-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 144
                                                                                                                                                                                               LENGTH: 144
                                                                                                                                                                                                             TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            q
                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 SETFDAEELTCLOTRLKLYKOGLRGSLIKLEGPLTMMASHYKOHCPPTLETSCATOMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 SETFDAEELITCLQTRLKLYXQGLRGSLIKLEGPLTWMASHYKQHCPPTLETSCATQMITF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                          ;
0
                                                                                                                                                                                                                                                                                                                                                                       Query Match 100.0%; Score 759; DB 36; Length 144; Best Local Similarity 100.0%; Pred. No. 4.3e-77; Matches 144; Conservative 0; Mismatches 0; Indels 0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 4
US-11-301-800-10
Sequence 10. Application US/11301800
GENERAL INFORMATION:
APPLICANT: BUELOW, ROLAND
APPLICANT: BUELOW, ROLAND
TITLE OF INVENTION: IMPROVED DNA IMMUNIZATION WITH
TITLE OF INVENTION: RECOMBINASE/TRANSPOSASE
FILE REFERENCE: 39691-0013
CURRENT APPLICATION NUMBER: US/11/301,800
CURRENT APPLICATION NUMBER: US/11/301,800
CURRENT APPLICATION NUMBER: US/605.361
PRIOR APPLICATION NUMBER: US 60/636,361
PRIOR PILING DATE: 2004-12-14
NUMBER OF SEQ ID NOS: 19
SOFTWARE: FastSEQ for Windows Version 4.0
EINGTH: 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 100.0%; Score 759; DB 43; Best Local Similarity 100.0%; Pred. No. 4.4e-77; Matches 144; Conservative 0; Mismatches 0;
TITLE OF INVENTION: Equine GM-CSF
FILE REFERENCE: 454313-2334.1
CURRENT APPLICATION NUMBER: US/10/614,481
CURRENT FILING DATE: 2003-07-07
PRIOR APPLICATION NUMBER: US/09/589,460
PRIOR PILING DATE: 2000-06-07
PRIOR FILING DATE: 1999-06-10
NUMBER OF SEQ ID NOS: 9
SEQ ID NO 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121 KSFKKNLKDFLFEIPFDCWKPAOK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                ; TYPE: PRT
; ORGANISM: Equine sp.
US-10-614-481-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; TYPE: PRT
; ORGANISM: Equus
US-11-301-800-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
```

RESULT 5 US-09-791-537-98077

```
Sequence 69622, Application US/09791537
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Bionomix, Inc.
APPLICANT: Debe, Derek
APPLICANT: Debe, Derek
APPLICANT: Debe, Derek
APPLICANT: Debe, Derek
APPLICANT: Debe, Derek
APPLICANT: Debe, Derek
APPLICANT: Debe, Derek
APPLICANT: Debe, Derek
APPLICANT: Debe, Derek
APPLICANT: Debe, Derek
APPLICANT: Debe, Derek
APPLICANT: Debe, Derek
APPLICANT: NETHORS OF USE THEREOF
FILE REFERENCE: 261/210
CURRENT APPLICATION NUMBER: US/09/791,537
KURREN TELING DATE: 2001-02-22
NUMBER OF SEQ ID NOS: 153055
SOFTWARE: Patentin Version 3.0
SEQ ID NO 69622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SETFDAEELTCLOTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 SETFDAEELTCLOTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MMLQNLLLLGTVVCSFSAPTRPASPVTRPWQHVDAIKEALSLLNHSSDTAAVMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MWLQNLLLLGTVVYSMPAPTROPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 15, Application US/11301800
; GENERAL INFORMATION:
; APPLICANT: BUELOW, TOLAND
; APPLICANT: PLATZER, JOSEF
; TITLE OF INVENTION: IMPROVED DNA IMMUNIZATION WITH
; TITLE OF INVENTION: RECOMBINASE/TRANSPOSASE
; FILE REFERENCE: 39691-0013
; CURRENT FILING DATE: 2005-12-12
; PRIOR APPLICATION NUMBER: US 60/636,361
; PRIOR FILING DATE: 2004-12-14
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 1:
LENGTH: 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 633; DB 27; I
Pred. No. 8.9e-63;
7; Mismatches 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           83.4%; Score 633; DB 43;
84.0%; Pred. No. 8.9e-63;
tive 7; Mismatches 16;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 KSFKENLKDFLFIIPFDCWEPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 KSFKENLKDFLFIIPFDCWEPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                   83.4%;
84.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 84.0°
Matches 121; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity 84.0
Matches 121; Conservative
                                                                                                                                                                                                                                                                                                                                                         ; TYPE: PRT
; ORGANISM: Cervus elaphus
US-09-791-537-69622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: PRT
ORGANISM: Cervus
         US-09-791-537-69622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-11-301-800-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠ
Sequence 98077, Application US/09791537
GENERAL INFORMATION:
APPLICANT: Bionomix, Inc.
APPLICANT: Bionomix, Inc.
APPLICANT: Debe, Derek
APPLICANT: Debe, Derek
TITLE OF INVENTION: THREE DIMENSIONAL STRUCTURES OF PROTEIN FAMILIES AND FAMILY MEMBE
TITLE OF INVENTION: METHODS OF USE THEREOF
FILE REFERENCE: 261/210
CURRENT APPLICATION NUMBER: US/09/791,537
CURRENT FILING DATE: 2001-02-22
NUMBER OF SEQ ID NOS: 153055
SOFTWARES: Patentin version 3.0
SEQ ID NO 98077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION:
Sequence 55369, Application US/09791537
GENERAL INFORMATION:
APPLICANT: Bionomix, Inc.
APPLICANT: Debe, Derek
APPLICANT: Debe, Derek
TITLE OF INVENTION: WETHODS OF USE THEREOF
TITLE OF INVENTION: METHODS OF USE THEREOF
TITLE OF INVENTION: METHODS OF USE THEREOF
TITLE OF INVENTION: METHODS OF USE THEREOF
GURRENT APPLICATION NUMBER: US/09/791,537
GURRENT FILING DATE: 2001-02-22
NUMBER OF SEQ ID NOS: 153055
SOUTHWARE: PREPENDED.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTWMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 SEMFDSQEPTCLQTRLELYKQGLRGSLTGSLTMMASHYKKHCPPTQETSCETQ1ITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPFTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 SEMFDSQEPTCLQTRLELYKQGLRGSLTSLTGSLTMMASHYKKHCPFTQETSCETQIITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MWLQNLLLLGTVVCSFSAPTRQPSPVTRPWQHVDAIKEALSLLNDSTDTAAVMDETVEVV 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MWLQNLLLLGTVVCSFSAPTRQPSPVTRPWQHVDAIXEALSLLNDSTDTAAVMDETVEVV 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .
0
                                                                                                                                                                                                                                                                                                                                                                                                                          Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 84.5%; Score 641; DB 27; Length 14 Best Local Similarity 84.0%; Pred. No. 1.1e-63; Matches 121; Conservative 11; Mismatches 12; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 83.9%; Score 637; DB 27; Length 14
Best Local Similarity 83.3%; Pred. No. 3.1e-63;
Matches 120; Conservative 11; Mismatches 13; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                               TYPE: PRT
CORGANISM: Ovis aries
US-09-791-537-98077
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; ORGANISM: Ovis aries
US-09-791-537-55369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH: 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
```

ð

à

g

ઠે

a

ठ

ठ

```
SETFDAEELTCLQTRLKLYKQGLRGSLIKLGGPLTWAASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 SETFDABELICLOTRIKLYKOGLRGSLIKLEGPLINMASHYKOHCPPILETSCATOMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 CEMFDEQEPTCVQTRINLYKQGLRGSLTRLKSPLTLLAKHYEQHCPLTEETSCETQSITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            77.3%; Score 587; DB 43; Length 144; 76.4%; Pred. No. 1.5e-57; tive 13; Mismatches 21; Indels (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 77.2%; Score 586; DB 1; Length 144; Best Local Similarity 76.4%; Pred. No. 1.9e-57; Matches 110; Conservative 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION: NOVEL CYTOKINE ZALPHAll LIGAND
FILE REFERENCE: 99-16PC
CURRENT APPLICATION NUMBER: 90 90/264,908
EARLIER APPLICATION NUMBER: US 09/264,908
EARLIER PILING DATE: 1999-03-09
EARLIER FILING DATE: 1999-03-11
EARLIER FILING DATE: 1999-03-11
EARLIER FILING DATE: 1999-07-01
NUMBER OF SEQ ID NOS: 115
SOFTWARE: FASTSEQ for Windows Version 3.0
SEQ ID NO 1144
                                                                                                           APPLICANT: PLATZER, JOSEF
TITLE OF INVENTION: IMPROVED DNA IMMUNIZATION WITH
TITLE OF INVENTION: RECOMBINASE/TRANSPOSASE
FILE REPERENCE: 39691-0013
CURRENT APPLICATION NUMBER: US/11/301,800
CURRENT FILING DATE: 2005-12-12
PRIOR APPLICATION NUMBER: US 60/636,361
PRIOR PILING DATE: 2004-12-14
SOFTWARE: PASESEQ for Windows Version 4.0
SEQ ID NO 12
LENGTH: 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 KSFKDSLNKFLFTIPFDCWGPVKK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 114, Application PC/TUS0006067 GENERAL INFORMATION:
                                           ; Sequence 12, Application US/11301800
; GENERAL INFORMATION:
; APPLICANT: BUELOW, ROLAND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity 76.4
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
CORGANISM: Homo sapiens
PCT-US00-06067-114
                                                                                            APPLICANT: BUELOW,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PCT-US00-06067-114
                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
ORGANISM: Sus
                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-11-301-800-12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 101680, Application US/09791537
GENERAL INFORMATION:
APPLICANT: Bionomix, Inc.
APPLICANT: Debe, Derek
APPLICANT: Debe, Derek
TITLE OF INVENTION: THREE DIMENSIONAL STRUCTURES OF PROTEIN FAMILIES AND FAMILY MEMBE
TITLE OF INVENTION: METHODS OF USE THEREOF
FILE REFERENCE: 261/210
CURRENT PAPLICATION NUMBER: US/09/791,537
CURRENT FILING DATE: 2001-02-22
NUMBER OF SEQ ID NOS: 153055
              Sequence 82598, Application US/09791537

GRNERAL INFORMATION:
APPLICANT: Bionomix, Inc.
APPLICANT: Bebc, Derek
APPLICANT: Debc, Derek
APPLICANT: US/09/191,537
CURRENT PAPLICATION UNMBER: US/09/791,537
CURRENT FILING DATE: 2001-02-22
NUMBER OF SEQ ID NOS: 153055
SOFTWARE: Patentin version 3.0
SEQ ID NO 82598
LENGTH: 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 CEMFDPQEPTCVQTRLNLYKQGLRGSLTRLKSPLTLLAKHYEQHCPLTBETSCETQSITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 SETFDAEELTCLOTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MWIQNILLIGIVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 78.7%; Score 597; DB 27; Length 144; Best Local Similarity 77.1%; Pred. No. 1.1e-58; Matches 111; Conservative 14; Mismatches 19; Indels (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;; Score 587; DB 27; Length 144;
; Pred. No. 1.5e-57;
13; Mismatches 21; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: PatentIn version 3.0 SEQ ID NO 101680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     77.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 76.4%
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; ORGANISM: Sus scrofa
US-09-791-537-101680
                                                                                                                                                                                                                                                                                                                                                                                ; ORGANISM: Sus scrofa
US-09-791-537-82598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-791-537-101680
-09-791-537-82598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
```

셤 ò g ò

ö

ö

g

à

q

ö

à

ö

Gaps

ô

9 9

ò 엄

```
61 SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTWMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV 60
                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Remaining Prior Application data removed - See File Wrapper or PALM. NUMBER OF SEQ ID NOS: 2222 SOFTWARE: Patentin Ver. 2.0 SEQ ID NO 447
                                                                                                                                                                                                                                                                                                                             Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 144;
                                                                                                                                                                                                                                                                                                                       77.2%; Score 586; DB 1; Length 14 76.4%; Pred. No. 1.9e-57; ive 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    77.2%; Score 586; DB 1;
76.4%; Pred. No. 1.9e-57;
iive 15; Mismatches 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVENTION:
TITLE OF INVENTION:
Abbuild The Correct of Inc.
TITLE OF INVENTION: Albumin Fusion Proteins
FILE REFERENCE: PF64PCT
CURRENT APPLICATION NUMBER: PCT/US02/40891
CURRENT FILING DATE: 2002-12-23
PRIOR PELING DATE: 2001-22-18
PRIOR FILING DATE: 2001-02-28
PRIOR FILING DATE: 2002-02-8
PRIOR FILING DATE: 2002-03-8
PRIOR FILING DATE: 2002-03-8
PRIOR PILING DATE: 2002-07-8
PRIOR PELING DATE: 2002-07-8
PRIOR APPLICATION NUMBER: 60/414,984
PRIOR PILING DATE: 2002-07-8
PRIOR PELING DATE: 2002-07-8
PRIOR FILING DATE: 2002-07-8
PRIOR FILING DATE: 2002-10-8
PRIOR FILING DATE: 2002-10-1
PRIOR PELING DATE: 2002-10-8
PRIOR FILING DATE: 2002-10-23
PRIOR FILING DATE: 2002-11-05
PRIOR FILING DATE: 2002-11-05
PRIOR PELING DATE: 2002-11-05
PRIOR PELING DATE: 2002-11-05
PRIOR FILING DATE: 2002-11-05
PRIOR FILING DATE: 2002-11-05
PRIOR FILING DATE: 2002-11-05
PRIOR FILING DATE: 2002-11-05
PRIOR PELING DATE: 2002-11-05
PRIOR PELING DATE: 2002-11-05
PRIOR FILING DATE: 2002-11-05
                  PRIOR APPLICATION NUMBER: 60/337,586
PRIOR FILING DATE: 2001-11-05
NUMBER OF SEQ ID NOS: 30
SOFTWARE: PastSEQ for Windows Version 4.0
LENGTH: 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEKENLKDFLLVIPFDCWEPVOE 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 447, Application PC/TUS0240891 GENERAL INFORMATION:
      2002-10-28
                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 76.43
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 77.2
Best Local Similarity 76.4
Matches 110; Conservative
                                                                                                                                                                                                       TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
ORGANISM: Homo sapiens
CURRENT FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PCT-US02-40891-447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PCT-US02-40891-447
                                                                                                                                                                                                                                                                    PCT-US02-34502-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 SEMFDLOEPTCLOTRLELYKQGLRGSLTKLKGPLTWMASHYKQHCPPTPETSCATQIITF 120
      61 SEMFDLQEPTCLQTRLELYKQGLRGSLTKLKGPLTMMASHYKQHCPPTPETSCATQIITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SETFDAEELTCLOTRLKLYKOGLRGSLIKLEGPLTMMASHYKOHCPPTLETSCATOMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MWLOSLLLLGTVACSISAPARSPSPSTOPWEHVNAIQEARRLLNLSRDTAAEMNETVEVI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Hakes, David
APPLICANT: Chen, Xi
TITLE OF INVENTION: REMODELING AND GLYCOCONJUGATION OF PEPTIDES
FILE REFERENCE: 040853-01-5050WO
CURRENT APPLICATION NUMBER: PCT/US02/32263
CURRENT FILING DATE: 2002-10-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           77.2%; Score 586; DB 1; Length 144; 76.4%; Pred. No. 1.9e-57; ive 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 10, Application PC/TUS0234502; Sequence 10, Application PC/TUS0234502; GENERAL INFORMATION:
APPLICANT: ZymoGenetics, Inc.
TITLE OF INVENTION: ZALPHAII LIGAND ANTAGONISTS; FILE REFERENCE: 01-37PC
CURRENT APPLICATION NUMBER: PCT/US02/34502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR PELLING DATE: 2002-10-31
PRIOR PELLING DATE: 2001-10-10
PRIOR APPLICATION NUMBER: US 60/328,523
PRIOR PILING DATE: 2001-10-19
PRIOR PILING DATE: 2001-10-19
PRIOR PILING DATE: 2001-11-08
PRIOR PELLING DATE: 2002-06-07
PRIOR PELLING DATE: 2002-06-07
PRIOR PELLING DATE: 2002-06-07
PRIOR PELLING DATE: 2002-06-15
PRIOR PELLING DATE: 2002-06-17
PRIOR PELLING DATE: 2002-06-17
PRIOR PELLING DATE: 2002-06-17
PRIOR PELLING DATE: 2002-07-17
PRIOR PELLING DATE: 2002-07-17
PRIOR PELLING DATE: 2002-07-17
PRIOR PELLING DATE: 2002-07-17
PRIOR PELLING DATE: 2002-08-16
PRIOR PELLING DATE: 2002-08-16
PRIOR PELLING DATE: 2002-08-18
PRIOR PELLING DATE: 2002-08-18
                                                            SFKENLKDFLLVIPFDCWEPVQE 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                  PCT-US02-32263-18; Sequence 18, Application PC/TUS0232263; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                 APPLICANT: Noose Technologies, I.
APPLICANT: DeFrees, Shawn
APPLICANT: Zopf, David
APPLICANT: Boyer, Robert
APPLICANT: Bowe, Caryn
APPLICANT: Hakes, David
APPLICANT: Chen, Xi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PatentIn version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 76.4*
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQ ID NOS: 62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 144
TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PCT-US02-32263-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: P
                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
```

a

ð

g ð g

ò

ö

0; Gaps

9

```
$ 6 6 G
```

Search completed: May 25, 2006, 15:12:38 Job time : 601 secs

```
임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 448, App
Sequence 540, App
Sequence 324, App
Sequence 324, App
Sequence 324, App
Sequence 232, App
Sequence 232, App
Sequence 232, App
Sequence 232, App
Sequence 231, App
Sequence 231, App
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 447, App
                                                                                                                        (without alignments)
157.333 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 448, A
Sequence 540, A
Sequence 541, A
Sequence 447, A
Sequence 448, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 325,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       / EMC_Celerra_SIDS3/prodata/2/paa/PCT_NEW_COMB.pep:*
/ EMC_Celerra_SIDS3/prodata/2/paa/USO6_NEW_COMB.pep:*
/ EMC_Celerra_SIDS3/prodata/2/paa/USO6_NEW_COMB.pep:*
/ EMC_Celerra_SIDS3/prodata/2/paa/USO6_NEW_COMB.pep:*
/ EMC_Celerra_SIDS3/prodata/2/paa/USO9_NEW_COMB.pep:*
/ EMC_Celerra_SIDS3/prodata/2/paa/USO9_NEW_COMB.pep:*
/ EMC_Celerra_SIDS3/prodata/2/paa/USI0_NEW_COMB.pep:*
/ EMC_Celerra_SIDS3/prodata/2/paa/USI1_NEW_COMB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence Sequence Sequence 4 Sequence 4 Sequence 4 Sequence 5 Sequence 5 Sequence 5 Sequence 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                                                                                                                                                                                                         1 MWLQNLLLLGTVVYSMPAPT.....KNLKDFLFEIPFDCWKPAQK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Seguence
GenCore version 5.1.8 (c) 1993 - 2006 Biocceleration Ltd.
                                                                                                    May 25, 2006, 15:02:47; Search time 19 Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-11-429-373-231
US-11-429-373-325
US-11-429-374-231
US-11-429-374-325
US-11-429-276-231
US-11-429-276-325
                                                                                                                                                                                                                                                                                                                          Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                               89621 segs, 20759156 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                   OM protein - protein search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pending_Patents_AA_New:*
                                                                                                                                                                                                                                            BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             四
                                                                                                                                                                          US-10-614-481-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query
Match Length
              Copyright
                                                                                                                                                                                         Perfect score:
                                                                                                                                                                                                                                            Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score
                                                                                                                                                                                                             Seguence:
                                                                                                                                                                                                                                                                                               Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Database
                                                                                                    Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Result
```

e 15, Appl	990			e 17334, A	436,	14091,		22443,		11908,		29329,	2300	325	196		3077	1048	2560	
Sequence	Seguence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	Sequence	
US-11-326-710-15	US-11-431-855-9903	US-11-431-855-19139	US-11-431-855-25484	US-11-431-855-17334	US-11-431-855-436	US-11-431-855-14091	US-11-431-855-18035	US-11-431-855-22443	US-11-431-855-12223	US-11-431-855-11908	US-11-431-855-29890	US-11-431-855-29329	US-11-431-855-23006	US-11-431-855-32535	US-11-431-855-19633	US-10-966-645A-52	US-11-431-855-30773	US-11-431-855-10487	US-11-431-855-25602	
7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	9	7	1	7	
127	424	1043	258	1357	167	1043	1043	1043	400	1060	1060	337	498	385	322	284	322	503	1491	
65.3	10.7	9.6	9.6	9.6	9.5	9.4	9.4	9.4	9.5	9.1	9.1	0.6	0.6	6.8	8.7	8.5	8.5	8.5	8.4	
496	81.5	74.5	72.5	72.5	72	71	71	71	69.5	69	69	68	68	67.5	99	64.5	64.5	64.5	63.5	
56	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	

## ALIGNMENTS

```
61 SETFDAEELTCLQTRLKUXKQGLRGSLIKLEGPLTWMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                      APPLICANT: ROSEN et al.

TITLE OF INVENTION: Albumin Fusion Proteins
FILIS REPERENCE: PF564

CURRENT APPLICATION NUMBER: US/11/429,373

CURRENT FILING DATE: 2006-05-08

PRIOR PILING DATE: 2006-05-10

PRIOR FILING DATE: 2003-12-23

PRIOR FILING DATE: 2003-12-23

PRIOR PILING DATE: 2003-12-23

PRIOR PILING DATE: 2003-12-23

PRIOR PILING DATE: 2003-12-23

PRIOR PILING DATE: 2003-02-28

PRIOR FILING DATE: 2002-02-28

PRIOR PILING DATE: 2002-05-10

PRIOR PLING DATE: 2002-05-10

PRIOR PLING DATE: 2002-05-10

PRIOR PLING DATE: 2002-05-10

PRIOR PLING DATE: 2002-05-18

PRIOR PLING DATE: 2002-09-18

PRIOR PLING DATE: 2002-10-11

PRIOR PLING DATE: 2002-10-23

REMAINING PAPEL 2002-10-23

REMAINING PRIOR APPLICATION NUMBER: 60/410, 611

PRIOR PLING DATE: 2002-10-11

PRIOR PLING DATE: 2002-10-23

REMAINING PRIOR APPLICATION NUMBER: 60/410, 611

PRIOR PLING DATE: 2002-10-11

PRIOR PLING DATE: 2002-10-13

PRIOR PLING DATE: 2002-10-23

REMAINING PRIOR APPLICATION NUMBER: 60/410, 611

PRIOR PLING DATE: 2002-10-11

PRIOR PLING DATE: 2002-10-11

PRIOR PLING DATE: 2002-10-11

PRIOR PLING DATE: 2002-10-13

REMAINING PLING DATE: 2002-10-11

PRIOR PLING DATE: 2002-10-11

PRIOR PLING DATE: 2002-10-13

REMAINING PRIOR APPLICATION NUMBER: 60/410, 610

PRIOR PLING DATE: 2002-10-11

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              77.2%; Score 586; DB 7; Length 144; 76.4%; Pred. No. 1.2e-58; ive 15; Mismatches 19; Indels
                       Sequence 447, Application US/11429373 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity 76.4
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
ORGANISM: Homo sapiens
US-11-429-373-447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-11-429-373-447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
```

ö

셤 ઠ 셤

```
61 SETFDAEELTCLOTRLKLYKOGLRCSLIKLEGPLTWMASHYKOHCPPTLETSCATOMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: PCT/US02/40891

PRIOR FILING DATE: 2002-12-23

PRIOR PILING DATE: 2001-12-21

PRIOR PILING DATE: 2001-12-21

PRIOR PILING DATE: 2001-2-21

PRIOR PELING DATE: 2001-2-28

PRIOR PELING DATE: 2002-02-88

PRIOR PELING DATE: 2002-02-89

PRIOR PELING DATE: 2002-05-60

PRIOR PELING DATE: 2002-07-49

PRIOR PILING DATE: 2002-07-49

PRIOR PELING DATE: 2002-09-18

PRIOR PELING DATE: 2002-09-18

PRIOR APPLICATION NUMBER: 60/411,355

PRIOR PELING DATE: 2002-10-02

PRIOR PELING DATE: 2002-10-02

PRIOR PELING DATE: 2002-10-10

PRIOR PELING DATE: 2002-10-10

PRIOR PELING DATE: 2002-10-10

PRIOR PELING DATE: 2002-10-10

PRIOR PELING DATE: 2002-10-23

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 77.2%; Score 586; DB 7; Length 14 Best Local Similarity 76.4%; Pred. No. 1.2e-58; Matches 110; Conservative 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 541, Application US/11429373
Sequence 541, Application US/11429373
GENERAL INFORMATION:
FAPPLICANT: Rosen et al.
TITLE OF INVENTION: Albumin Fusion Proteins
FILE REFERENCE: PFS64
CURRENT APPLICATION NUMBER: US/11/429,373
CURRENT FILING DATE: 2006-05-08
PRIOR APPLICATION NUMBER: 10/775,204
PRIOR APPLICATION NUMBER: PCT/USO2/40891
PRIOR FILING DATE: 2002-12-23
PRIOR FILING DATE: 2002-12-23
PRIOR FILING DATE: 2002-12-23
PRIOR APPLICATION NUMBER: 60/341,811
PRIOR APPLICATION NUMBER: 60/360,000
PRIOR FILING DATE: 2002-02-8
PRIOR FILING DATE: 2002-02-8
PRIOR FILING DATE: 2002-03-8
PRIOR FILING DATE: 2002-05-10
PRIOR FILING DATE: 2002-05-13
PRIOR PILING DATE: 2002-01-8
PRIOR FILING DATE: 2002-01-8
PRIOR FILING DATE: 2002-10-02
PRIOR FILING DATE: 2002-10-02
PRIOR PILING DATE: 2002-10-03
PRIOR PILING DATE: 2002-10-11
PRIOR APPLICATION NUMBER: 60/414,984
PRIOR PILING DATE: 2002-10-03
PRIOR APPLICATION NUMBER: 60/414,984
PRIOR PILING DATE: 2002-10-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
CORGANISM: Homo sapiens
US-11-429-373-540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO 540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 SETFDABELICLOTRLKLYKOGLRGSLIKLEGPLIMMASHYKOHCPPTLETSCATOMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 SEMFDLQEPTCLQTRLELYKQGLRGSLTKLKGPLTMMASHYKQHCPPTPETSCATQLITF 120
           61 SEMFULQEPTCLQTRLELYKQGLRGSLTKLKGPLTMMASHYKQHCPPTPETSCATQIITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SHERMAL INFORMATION:

APPLICANT: ROSEN et al.

TITLE OF INVENTION: Albumin Fusion Proteins

CURRENT APPLICATION NUMBER: US/11/429,373

CURRENT FILING DATE: 2006-05-08

FRIOR PELING DATE: 2004-02-11

FRIOR PELING DATE: 2004-02-12

FRIOR APPLICATION NUMBER: 60/341,811

FRIOR PELING DATE: 2001-12-23

FRIOR PELING DATE: 2002-02-28

FRIOR APPLICATION NUMBER: 60/378,950

FRIOR FILING DATE: 2002-07-64

FRIOR FILING DATE: 2002-07-64

FRIOR FILING DATE: 2002-07-64

FRIOR FILING DATE: 2002-07-64

FRIOR PELING DATE: 2002-07-64

FRIOR PELING DATE: 2002-07-64

FRIOR PELING DATE: 2002-07-64

FRIOR PELING DATE: 2002-07-10-02

FRIOR PELING DATE: 2002-10-02

FRIOR FILING DATE: 2002-10-03

FRIOR FILING DATE: 2002-10-10-33

FRIOR FILING DATE: 2002-10-03

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        77.2%; Score 586; DB 7; Length 144; 76.4%; Pred. No. 1.2e-58; Live 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 540, Application US/11429373
GENERAL INFORMATION:
APPLICANT: Rosen et al.
TITLE OF INVENTION: Albumin Fusion Proteins
FILE REFERENCE: PF564
CURRENT APPLICATION NUMBER: US/11/429,373
CURRENT FILING DATE: 2006-05-08
PRIOR APPLICATION NUMBER: 10/775,204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ESFKENLKDFLLVIPFDCWEPVQE 144
                                                                                          121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                             SPKENLKDFLLVIPFDCWEPVQE 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                  US-11-429-373-448
; Sequence 448, Application US/11429373
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 76.4%
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; TYPE: PRT
; ORGANISM: Homo sapiens
US-11-429-373-448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT.3
US-11-429-373-540
                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
```

ò g ò a ò g

ö

Gaps

.. 0

유 ò 요 ò a

```
61 SETFDAEELTCLOTRLKLYKOGLRGSLIKLEGPLTMMASHYKOHCPPTLETSCATOMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 SEMFDLQEPTCLQTRLELYKQGLRGSLTKLKGPLTWMASHYKQHCPPTPETSCATQIITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MWLQSLLLLGTVACSISAPARSPSPSTQPWEHVNAIQEARRLLNLSRDTAAEMNETVEVI 60
                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Rosen et al.
TITLE OF INVENTION: Albumin Fusion Proteins
TITLE OF INVENTION: Albumin Fusion Proteins
TITLE OF INVENTION: Albumin Fusion Proteins
TITLE OF INVENTION: Albumin Fusion Proteins
CURRENT APPLICATION NUMBER: US/11/429,374
CURRENT FILING DATE: 2004-02-11
FRIOR PAPLICATION NUMBER: 10/775,204
FRIOR APPLICATION NUMBER: 60/341,811
FRIOR APPLICATION NUMBER: 60/340,000
FRIOR FILING DATE: 2002-02-28
FRIOR APPLICATION NUMBER: 60/378,950
FRIOR APPLICATION NUMBER: 60/378,950
FRIOR APPLICATION NUMBER: 60/411,355
FRIOR PILING DATE: 2002-07-20-18
FRIOR FILING DATE: 2002-07-20-18
FRIOR PILING DATE: 2002-07-41,984
FRIOR APPLICATION NUMBER: 60/411,611
FRIOR APPLICATION NUMBER: 60/414,984
FRIOR FILING DATE: 2002-10-02
FRIOR FILING DATE: 2002-10-02
FRIOR FILING DATE: 2002-10-02
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
FRIOR FILING DATE: 2002-10-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 77.2%; Score 586; DB 7; Length 14 76.4%; Pred. No. 1.2e-58; Live 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 540, Application US/11429374
GENERAL INFORMATION:
APPLICANT ROSEN et al.
TITLE OF INVENTION: Albumin Fusion Proteins;
FILE REFERENCE: PF564
CURRENT APPLICATION NUMBER: US/11/429,374
CURRENT FILING DATE: 2006-05-08
PRIOR APPLICATION NUMBER: 10/775,204
                                                                                                                                                             121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-11-429-374-448
; Sequence 448, Application US/11429374
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 76.49
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-11-429-374-540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-11-429-374-448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 7
                                                유
                                                                                                                        ò
                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 SETFDAEELTCLOTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 SEMPDLQEPTCLQTRLELYKQGLRGSLTKLKGPLTWMASHYKQHCPPTPETSCATQIIIF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTWMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MWLQSLLLLGTVACSISAPARSPSPSTQPWEHVNAIQEARRLLNLSRDTAAEMNETVEVI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/11/429,374

CURRENT FILING DATE: 2006-05-08

FRIOR PAPLICATION NUMBER: US/775,204

FRIOR PAPLICATION NUMBER: PCT/US02/40891

FRIOR APPLICATION NUMBER: PCT/US02/40891

FRIOR APPLICATION NUMBER: PCT/US02/40891

FRIOR APPLICATION NUMBER: PCT/US02/40891

FRIOR PILING DATE: 2002-12-23

FRIOR PAPLICATION NUMBER: 60/340,000

FRIOR FILING DATE: 2002-02-88

FRIOR APPLICATION NUMBER: 60/378,950

FRIOR APPLICATION NUMBER: 60/398,008

FRIOR PILING DATE: 2002-05-24

FRIOR PILING DATE: 2002-07-24

FRIOR PILING DATE: 2002-07-24

FRIOR PILING DATE: 2002-07-24

FRIOR PLING DATE: 2002-10-02

FRIOR APPLICATION NUMBER: 60/411,355

FRIOR PLING DATE: 2002-10-02

FRIOR PLING DATE: 2002-10-02

FRIOR APPLICATION NUMBER: 60/417,611

FRIOR APPLICATION NUMBER: 60/410,611

FRIOR APPLICATION NUMBER: 60/420,246

FRIOR PLING DATE: 2002-10-23

FRIOR APPLICATION NUMBER: 60/420,246

FRIOR FILING DATE: 2002-10-23

FRIOR PLING DATE: 2002-10-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MWLQSLLLIGTVACSISAPARSPSPSTQPWEHVNAIQEARRLLNLSRDTAAEMNETVEVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
Remaining Prior Application data removed - See File Wrapper or PALM. NUMBER OF SEQ ID NOS: 2222 SOFTWARE: Patentin Ver. 2.0 SEQ ID NO 541 ENGTH: 144
                                                                                                                                                                                                                                                                                                                                                                                                                 .
0
                                                                                                                                                                                                                                                                                                                              Query Match 77.2%; Score 586; DB 7; Length 144; Best Local Similarity 76.4%; Pred. No. 1.2e-58; Matches 110; Conservative 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           77.2%; Score 586; DB 7; Length 144; 76.4%; Pred. No. 1.2e-58; ive 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: Rosen et al.
TITLE OF INVENTION: Albumin Fusion Proteins
FILE REFERENCE: PF564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                :|||:||||||| |||||:|| |:
ESFKENLKDFLLVIPFDCWEPVQE 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 447, Application US/11429374 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 447
LENGTH: 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity 76.4
Matches 110; Conservative
                                                                                                                                                                                    TYPE: PRT
CORGANISM: Homo sapiens
US-11-429-373-541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; ORGANISM: Homo sapiens
US-11-429-374-447
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
```

60

පු ð

ઠે

```
PRIOR FILING DATE: 2002-10-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-11-429-276-447
                                                                                                                                                                                                                                                                                                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                          TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SETFDAEELTCLOTRLKLYKQGLRGSLIKLEGPLTNMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR FILING DATE: 2004-02-11
PRIOR PAPLICATION NUMBER: PCT/US02/40891
PRIOR APPLICATION NUMBER: PCT/US02/40891
PRIOR PILING DATE: 2002-12-21
PRIOR APPLICATION NUMBER: 60/340,000
PRIOR APPLICATION NUMBER: 60/360,000
PRIOR PILING DATE: 2002-05-10
PRIOR FILING DATE: 2002-05-10
PRIOR FILING DATE: 2002-05-10
PRIOR FILING DATE: 2002-05-10
PRIOR FILING DATE: 2002-05-18
PRIOR PILING DATE: 2002-01-18
PRIOR PILING DATE: 2002-01-18
PRIOR FILING DATE: 2002-01-18
PRIOR FILING DATE: 2002-10-12
PRIOR FILING DATE: 2002-10-12
PRIOR FILING DATE: 2002-10-13
PRIOR FILING DATE: 2002-10-13
PRIOR FILING DATE: 2002-10-13
PRIOR FILING DATE: 2002-10-31
PRIOR FILING DATE: 2002-10-31
PRIOR PILING DATE: 2002-10-31
PRIOR FILING DATE: 2002-10-31
PRIOR PILING DATE: 2002-10-31
PRIOR FILING DATE: 2002-10-31
PRIOR PILING DATE: 2002-10-31
PRIOR PILING DATE: 2002-10-31
PRIOR PILING DATE: 2002-10-31
PRIOR PILING DATE: 2002-10-31
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 77.2%; Score 586; DB 7; Length 144; Best Local Similarity 76.4%; Pred. No. 1.2e-58; Matches 110; Conservative 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 541, Application US/11429374

GENERAL INFORMATION:
APPLICANT: Rosen et al.
TITLE OF INVENTION: Albumin Fusion Proteins
FILE REFERENCE: PF564
CURRENT APPLICATION NUMBER: US/11/429,374
CURRENT APPLICATION NUMBER: US/11/429,374
CURRENT APPLICATION NUMBER: US/11/429,374
CURRENT APPLICATION NUMBER: OS/06-08
PRIOR APPLICATION NUMBER: PCT/USO2/40891
PRIOR FILING DATE: 2002-12-21
PRIOR APPLICATION NUMBER: 60/341,811
PRIOR FILING DATE: 2002-28
PRIOR FILING DATE: 2002-02-18
PRIOR FILING DATE: 2002-02-18
PRIOR FILING DATE: 2002-05-10
PRIOR APPLICATION NUMBER: 60/389,950
PRIOR FILING DATE: 2002-05-10
PRIOR APPLICATION NUMBER: 60/411,355
PRIOR FILING DATE: 2002-05-16
PRIOR APPLICATION NUMBER: 60/411,355
PRIOR FILING DATE: 2002-05-18
PRIOR APPLICATION NUMBER: 60/411,365
PRIOR FILING DATE: 2002-05-18
PRIOR APPLICATION NUMBER: 60/411,365
PRIOR FILING DATE: 2002-05-18
PRIOR PILING DATE: 2002-01-18
PRIOR PILING DATE: 2002-10-11
PRIOR PILING DATE: 2002-10-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SPECENTROPELLVIPPOCWEPVQE 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT; ORGANISM: Homo sapiens
US-11-429-374-540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-11-429-374-541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
```

```
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION NUMBER: US/11/429,276

CURRENT PLING DATE: 2006-05-08

PRIOR APPLICATION NUMBER: 10/775,204

PRIOR PLICATION NUMBER: 10/775,204

PRIOR PLING DATE: 2004-02-11

PRIOR PLING DATE: 2004-02-11

PRIOR PLING DATE: 2001-12-23

PRIOR PLING DATE: 2001-12-21

PRIOR PLING DATE: 2001-12-21

PRIOR PLING DATE: 2001-02-28

PRIOR PLING DATE: 2002-02-28

PRIOR PLING DATE: 2002-02-8

PRIOR PLING DATE: 2002-05-10

PRIOR PLING DATE: 2002-05-10

PRIOR PLING DATE: 2002-05-10

PRIOR PLING DATE: 2002-07-24

PRIOR PLING DATE: 2002-07-24

PRIOR PLING DATE: 2002-09-18

PRIOR PLING DATE: 2002-09-18

PRIOR PLING DATE: 2002-10-11

PRIOR PLING DATE: 2002-10-21

PRIOR PLING DATE: 2002-10-23

Remaining Prior Application data removed - See File Wrapper or PALM.

SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                     1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                             Gaps
Remaining Prior Application data removed ' See File Wrapper or PALM. NUMBER OF SEQ ID NOS: 2222
SOFTWARE: Patentin Ver. 2.0
SEQ ID NO 541
LENGTH: 144
                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 144;
                                                                                                                                                                                                                                                         Length 144;
                                                                                                                                                                                                                                                                                                             19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       19; Indels
                                                                                                                                                                                                                                                   77.2%; Score 586; DB 7; 76.4%; Pred. No. 1.2e-58; iive 15; Mismatches 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  77.2%; Score 586; DB 7; 76.4%; Pred. No. 1.2e-58; iive 15; Mismatches 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Rosen et al.
TITLE OF INVENTION: Albumin Fusion Proteins
FILE REFERENCE: PF564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-11-429-276-447; Sequence 447, Application US/11429276; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                   Best Local Similarity 76.4
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Best Local Similarity 76.4
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                    ORGANISM: Homo sapiens
US-11-429-374-541
```

```
US-11-429-276-541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
61 SETFDAEELICLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF 120
                             61 SEMFDLQEPTCLQTRLELYKQGLRGSLTKLKGPLTWMASHYKQHCPFTPETSCATQIITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MWLQSLLLLGTVACSISAPARSPSPSTQPWEHVNAIQEARRLLNLSRDTAAEMNETVEVI 60
                                                                                                                                                                                                                                                                                                                                                        APPLICANT: Rosen et al.

TITLE OF INVENTION: Albumin Fusion Proceins
CURRENT APPLICATION UNMER: US/11/429,276
CURRENT APPLICATION NUMBER: US/11/429,276
CURRENT FILING DATE: 2006-05-08
PRIOR PELICATION NUMBER: 10/775,204
PRIOR PELICATION NUMBER: PCT/US02/40891
PRIOR PELICATION NUMBER: PCT/US02/40891
PRIOR PELICATION NUMBER: 60/341,811
PRIOR PELICATION NUMBER: 60/341,811
PRIOR PELING DATE: 2001-12-21
PRIOR PELING DATE: 2002-05-26
PRIOR PELING DATE: 2002-05-26
PRIOR PELING DATE: 2002-05-26
PRIOR PELING DATE: 2002-05-26
PRIOR PELING DATE: 2002-05-26
PRIOR PELING DATE: 2002-07-24
PRIOR PELING DATE: 2002-01-02
PRIOR PELING DATE: 2002-10-02
PRIOR PELING DATE: 2002-10-02
PRIOR PELING DATE: 2002-10-03
PRIOR PELING DATE: 2002-10-03
PRIOR PELING DATE: 2002-10-03
PRIOR PELING DATE: 2002-10-03
PRIOR PELING DATE: 2002-10-03
PRIOR PELING DATE: 2002-10-03
PRIOR PELING DATE: 2002-10-03
PRIOR PELING DATE: 2002-10-03
PRIOR PELING DATE: 2002-10-03
PRIOR PELING DATE: 2002-10-03
PRIOR PELING DATE: 2002-10-03
PRIOR PELING DATE: 2002-10-03
PRIOR PELING DATE: 2002-10-03
PRIOR PELING DATE: 2002-10-03
PRIOR PELING DATE: 2002-10-03
PRIOR PELING DATE: 2002-10-03
PRIOR PELING DATE: 2002-10-03
PRIOR PELING DATE: 2002-10-03
PRIOR PELING DATE: 2002-10-03
PRIOR PELING DATE: 2002-10-03
PRIOR PELING DATE: 2002-10-03
PRIOR PELING DATE: 2002-10-03
PRIOR PELING DATE: 2002-10-03
PRIOR PELING DATE: 2002-10-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 77.2%; Score 586; DB 7; Length 144; Best Local Similarity 76.4%; Pred. No. 1.2e-58; Matches 110; Conservative 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 540, Application US/11429276
GENERAL INFORMATION:
APPLICANT: Rosen et al.
TITLE OF INVENTION: Albumin Fusion Proteins
FILE REFERENCE: PF564
CURRENT APPLICATION NUMBER: US/11/429,276
CURRENT FILING DATE: 2006-05-08
                                                                                                                                            121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SFKENLKDFLLVIPFDCWEPVQE 144
                                                                                                                                                                                                                                                                                                        ; Sequence 448, Application US/11429276; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         , ORGANISM: Homo sapiens
US-11-429-276-448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 11
US-11-429-276-540
                                                                                                                                                                                                                                                                                US-11-429-276-448
                                               a
                                                                                                                                                                 g
                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
```

```
61 SETPDAEELTCLOTRLKLYKOGLRGSLIKLEGPLTMMASHYKOHCPPTLETSCATOMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION NUMBER: PCT/US02/40891
PRIOR FILING DATE: 2004-02-11
PRIOR FILING DATE: 2004-02-12-3
PRIOR FILING DATE: 2001-12-21
PRIOR PILING DATE: 2001-12-21
PRIOR PLICATION NUMBER: 60/341,811
PRIOR PELICATION NUMBER: 60/378,950
PRIOR FILING DATE: 2002-05-10
PRIOR PLING DATE: 2002-05-10
PRIOR PILING DATE: 2002-05-10
PRIOR PILING DATE: 2002-05-20
PRIOR PILING DATE: 2002-07-20
PRIOR PILING DATE: 2002-07-20
PRIOR PILING DATE: 2002-07-20
PRIOR PILING DATE: 2002-07-20
PRIOR PILING DATE: 2002-10-21
PRIOR PLING DATE: 2002-10-11
PRIOR PLING DATE: 2002-10-11
PRIOR PILING DATE: 2002-10-11
PRIOR PILING DATE: 2002-10-23
PRIOR PILING DATE: 2002-10-23
PRIOR PILING DATE: 2002-10-23
PRIOR PILING DATE: 2002-10-23
PRIOR PILING DATE: 2002-10-23
PRIOR PILING DATE: 2002-10-23
PRIOR PILING DATE: 2002-10-23
PRIOR PILING DATE: 2002-10-23
PRIOR PILING DATE: 2002-10-23
PRIOR PILING DATE: 2002-10-23
PRIOR PILING DATE: 2002-10-23
PRIOR PILING DATE: 2002-10-23
PRIOR PILING DATE: 2002-10-23
PRIOR PILING DATE: 2002-10-23
PRIOR PILING DATE: 2002-10-23
PRIOR PILING DATE: 2002-10-23
PRIOR PILING DATE: 2002-10-23
PRIOR PILING DATE: 2002-10-23
PRIOR PILING DATE: 2002-10-23
PRIOR PILING DATE: 2002-10-23
PRIOR PILING DATE: 2002-10-23
PRIOR PILING DATE: 2002-10-23
PRIOR PILING DATE: 2002-10-23
PRIOR PILING DATE: 2002-10-23
PRIOR PILING DATE: 2002-10-23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 SEMFDLQEPTCLQTRLELYKQGLRGSLTKLKGPLTWMASHYKQHCPPTPETSCATQIITF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            77.2%; Score 586; DB 7; 76.4%; Pred. No. 1.2e-58; tive 15; Mismatches 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENTION: Albumin Fusion Proteins
TITLE OF INVENTION: Albumin Fusion Proteins
FILE REPERENCE: PF64
CURRENT APPLICATION NUMBER: US/11/429,276
CURRENT FILING DATE: 2006-05-08
PRIOR PILING DATE: 2004-02-11
PRIOR PILING DATE: 2001-21
PRIOR APPLICATION NUMBER: PCT/US02/40891
PRIOR FILING DATE: 2001-12-3
PRIOR PILING DATE: 2001-12-3
PRIOR APPLICATION NUMBER: 60/341,811
PRIOR APPLICATION NUMBER: 60/341,811
PRIOR FILING DATE: 2001-12-21
PRIOR FILING DATE: 2001-12-28
PRIOR FILING DATE: 2002-03-08
PRIOR PILING DATE: 2002-05-08
PRIOR APPLICATION NUMBER: 60/398,008
PRIOR APPLICATION NUMBER: 60/398,008
PRIOR APPLICATION NUMBER: 60/411,355
PRIOR APPLICATION NUMBER: 60/411,355
PRIOR PILING DATE: 2002-09-18
PRIOR FILING DATE: 2002-09-18
PRIOR PILING DATE: 2002-01-18
PRIOR APPLICATION NUMBER: 60/411,354
PRIOR PILING DATE: 2002-09-18
PRIOR PILING DATE: 2002-09-18
PRIOR PILING DATE: 2002-01-17,611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121 KSFKKNLKDFLFEIPFDCWKPAOK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; Sequence 541, Application US/11429276; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 76.4%
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; ORGANISM: Homo sapiens
US-11-429-276-540
```

ö

```
TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-11-429-276-324
                                                                                                                                                                                                                                                                                 US-11-429-374-324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-11-429-374-324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID NO 324
LENGTH: 729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                ð
                                                                       요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HEREMALL INFURNATION:

APPLICANT: ROSEN et al.

TITLE OF INVENTION: Albumin Fusion Proteins

TITLE OF INVENTION: Albumin Fusion Proteins

FILE REPERBUCE: PES-64

CURRENT APPLICATION NUMBER: US/11/429,373

CURRENT PILING DATE: 2006-05-08

FRIOR PELION NUMBER: PCT/US02/40891

PRIOR PELION NUMBER: PCT/US02/40891

PRIOR APPLICATION NUMBER: PCT/US02/40891

PRIOR APPLICATION NUMBER: 60/341,811

PRIOR PELING DATE: 2002-02-23

PRIOR PELING DATE: 2002-02-18

PRIOR PELING DATE: 2002-05-10

PRIOR APPLICATION NUMBER: 60/398,008

PRIOR APPLICATION NUMBER: 60/398,008

PRIOR PELING DATE: 2002-07-24

PRIOR PELING DATE: 2002-07-24

PRIOR PELING DATE: 2002-10-102

PRIOR PELING DATE: 2002-10-102

PRIOR APPLICATION NUMBER: 60/417,611

PRIOR APPLICATION NUMBER: 60/417,611

PRIOR PELING DATE: 2002-10-11

PRIOR PILING DATE: 2002-10-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                          1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
PRIOR APPLICATION NUMBER: 60/420,246
PRIOR FILING DATE: 2002-10-23
Remaining Prior Application data removed - See File Wrapper or PALM.
NUMBER OF SEQ ID NOS: 222
SUTWARE: Patentin Ver. 2.0
SEQ ID NO 541
LENGTH: 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ;
0
                                                                                                                                                                                                                                                                                                                                        ;
0
                                                                                                                                                                                                                                                                                      77.2%; Score 586; DB 7; Length 144; 76.4%; Pred. No. 1.2e-58; Live 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         77.2%; Score 586; DB 7; Length 729; 76.4%; Pred. No. 1.1e-57; ive 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 324, Application US/11429373 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   76.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 76.4*
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                      Best Local Similarity 76.4 Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                        TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                 Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-11-429-373-324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-11-429-373-324
                                                                                                                                                                                                                                       US-11-429-276-541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQ ID NO 324
                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                          à
```

```
CUKKENT FILING DATE: 2006-05-08

PRIOR APPLICATION NUMBER: 10/775,204

PRIOR FILING DATE: 2004-02-11

PRIOR FILING DATE: 2004-02-11

PRIOR PELICATION NUMBER: PCT/US02/40891

PRIOR PELICATION NUMBER: 60/341,811

PRIOR FILING DATE: 2002-12-23

PRIOR PELICATION NUMBER: 60/389,950

PRIOR FILING DATE: 2002-05-30

PRIOR FILING DATE: 2002-05-30

PRIOR FILING DATE: 2002-07-24

PRIOR FILING DATE: 2002-07-24

PRIOR PELICATION NUMBER: 60/411,355

PRIOR PELICATION NUMBER: 60/411,355

PRIOR PELICATION NUMBER: 60/411,355

PRIOR PELICATION NUMBER: 60/411,611

PRIOR PELICATION NUMBER: 60/417,611

PRIOR APPLICATION NUMBER: 60/417,611

PRIOR APPLICATION NUMBER: 60/410,611

PRIOR PELICATION NUMBER: 60/410,611

PRIOR PELICATION NUMBER: 60/410,611

PRIOR APPLICATION NUMBER: 60/410,611

PRIOR APPLICATION NUMBER: 60/410,611

PRIOR APPLICATION NUMBER: 60/410,611

PRIOR PELICATION NUMBER: 60/410,611

PRIOR PELI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 77.2%; Score 586; DB 7; Length 729; Best Local Similarity 76.4%; Pred. No. 1.1e-57; Matches 110; Conservative 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT; ORGANISM: Homo sapiens
US-11-429-276-324
```

121 KSFKKNLKDFLFEIPFDCWKPAOK 144 121 셤 ઠે

1 MWLQNLLLLGTVVVSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV 60

> 원 ò

ò

0; Gaps

Search completed: May 25, 2006, 15:13:02 Job time : 19 secs

BEST AVAILABLE COPY

Sequence:

.. 0

Run

Searched:

Database

```
AR031114 Sequence
13302 Sequence
130302 Sequence
10834914 Sequence
AR302748 Sequence
AR30278 Sequence
AR033388 Sequence
AR0533388 Sequence
AR0533388 Sequence
AR053338 Sequence
AR053338 Sequence
AR05333 Sequence
CQ003372 Sequence
CQ003372 Sequence
CQ00378 Sequence
CS01589 Sequence
CS01589 Sequence
CS01589 Sequence
CS01589 Sequence
CS015914 Sequence
CS015914 Sequence
I08093 Sequence
I08093 Sequence
I08093 Sequence
I08094 Sequence
I08093 Sequence
I08094 Sequence
I08095 Sequence
I08095 Sequence
I08095 Sequence
I08095 Sequence
I08095 Sequence
I08095 Sequence
I08095 Sequence
I08095 Sequence
I08095 Sequence
I08095 Sequence
I08095 Sequence
I08095 Sequence
I08095 Sequence
I08095 Sequence
I08095 Sequence
I08095 Sequence
I08095 Sequence
I08095 Sequence
I08095 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AR028919 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;
0
                                                                                                                                                                                                                                                                                                                                                                                                     1 (bases 1 to 435)
Bublot,M., Perez,J.M. and Andreoni,C.M.P.
Nucleic acids encodings equine GM-CSF
Patent: US 6645740-A 8 11-NOV-2003;
Merial Limited and Merial LLC; London;
GBX;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     100.0%; Score 435; DB 2;
100.0%; Pred. No. 9e-105;
ive 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                        435 bp
Sequence 8 from patent US 6645740.
AR429724
                                                                                                                                                                                                                                                                             ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /mol_type="genomic DNA"
                                                                                                              SSU61139
CQ721607
                           AY116504
                                             AR302748
AR696282
                                                               AX078785
BD105958
CS057854
AR533388
AX067830
                                                                                                                                                   CS032694
CS035823
CS041646
CS044775
CS195784
                                     CQ834914
                                                                                                                                                                                                                                                  BC108724
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                           108094
108401
109140
109160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1. .435
/organism="unknown"
                                                                                                                                                                                                                                                                                                                                                        GI:40190061
Query Match 100.
Best Local Similarity 100.
Matches 435; Conservative
                                                                                                                                                                                                                                                                                                                                                                                     Unknown.
Unclassified.
                                                                                                                                                                                                                                                                                                                                                         AR429724.1
Unknown.
3322.66
33322.66
33322.66
33322.66
33322.66
33322.66
33322.66
33322.66
33322.66
33322.66
33322.66
33322.66
33322.66
33322.66
33322.66
33322.66
33322.66
33322.66
33322.66
33322.66
33322.66
33322.66
33322.66
33322.66
33322.66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                    DEFINITION
ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                  AR429724
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                          RESULT
ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AR429724 Sequence
AX057390 Sequence
AX06732 Sequence
AF448401 Equus cab
AX040203 Equus cab
AX040203 Equus cab
AX040203 Equus cab
AX040203 Equus cab
AX040203 Equus cab
D21074 Sus scrofa
D21074 Sus scrofa
AX067831 Sequence
U67175 Sus scrofa
BD211587 Canine an
BD211586 Sequence
AR241565 Sequence
AR241565 Sequence
AR24521 Sequence
AR254521 Sequence
                                                                          (without alignments)
9135.346 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Description
                                                                                                                         1 atgtggctgcagaacctgct......ggaagccagccagaagtaa
                                                               May 26, 2006, 00:41:25 ; Search time 3045 Seconds
         GenCore version 5.1.8 (c) 1993 - 2006 Biocceleration Ltd.
                                                                                                                                                                                       Total number of hits satisfying chosen parameters:
                                                                                                                                                                      6366136 segs, 31973710525 residues
                                                                                                                                                                                                                                      Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AF448481
AY040203
OOGMCSF
DQ010419
OOGMCSFR
CEU14392
PIGGMCSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AX067831
SSU67175
BD211587
BD211588
AR241565
AR241566
AR254521
                                              - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AR429724
AX057390
AX067832
                                                                                                                                                     Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                            seq length: 0
seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB
                                                                                                      US-10-614-481-8
                                                                                                                                                                                                                                                                                                                                                                          gb_vi:*
gb_nvi:*
gb_nrg:*
gb_om:*
                                                                                                                                                                                                                                                                                      gb_pat: *
gb_ph: *
gb_pl: *
gb_pr: *
gb_r: *
gb_st: *
gb_st: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query
Match Length
                                                                                                                                           IDENTITY NUC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4433
432
432
432
432
432
432
                 Copyright
                                                                                                                                                                                                                                                                               GenEmbl:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                432
419.8
363.2
363
363
363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     322.66
3322.66
3322.66
3322.66
                                                                                                                                           Scoring table:
                                                                                                               Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score
                                              OM nucleic
                                                                                                                                                                                                            Minimum DB
Maximum DB
```

PAT 18-DEC-2003

ö

Gaps . 0 9 9 120

Result 8 240 240

셤

셤

ò g ò

8

g

```
AF448481 438 bp mRNA linear MAM 12-AUG-2002 Equus caballus granulocyte-macrophage colony-stimulating factor (GM-CSF) mRNA, partial cds.
AF4444811.2 GI:22208937
                                                                                              PAT 19-JAN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                             Euteleostomi;
Equidae; Equus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCACGTGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 AGCCTTCTGAACAACAGTAGTGACACTGCTGCTATCATGAAAGGAAAACAGTAGAAGTCGTC 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TACAAGCAGCACCCCCCCCCCCCCGGAAACTTCCTGTGCAACCACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361 AAAAGTTTCAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTGACTGCTGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCTAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                        Query Match
100.0%; Score 435; DB 2; Length 435;
Best Local Similarity 100.0%; Pred. No. 9e-105;
Matches 435; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                Eguus sp.
Bukaryota; Metazoa; Chordata; Craniata; Vertebrata;
Mammalia; Butheria; Laurasiatheria; Perissodactyla;
                                                                                                                                                                                                                                   Fischer, L.J., barzu-le Roux, S. and Audonnet, J.C. Dna vaccines for pets and sport animals Patent: WO 0077043-A 69 21-DEC-2000; MERIAL (FR)
                                                                                               DNA
                                                                                                                                                                                                                                                                                       Location/Qualifiers
1. 435
/organism="Equue sp."
/mol_type="unassigned DNA"
/db_xref="taxon:46122"
                                                                                               AX067832 435 bp
Sequence 69 from Patent W00077043.
AX067832. GI:12329710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCAGCCCAGAAGTAA 435
421 CCAGCCCAGAAGTAA
              421 CCAGCCCAGAAGTAA
                                                                                                                                                                    Equus sp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                         ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
VERSION
KEYWORDS
                                                                                                             DEFINITION
                                                                                                                                                                                                                       REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 4
AF448481
                                                                    RESULT 3
AX067832
                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                 ORIGIN
                                                                                               LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                              PAT 17-JAN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                         300
                                                                     360
                                                                                                360
                                                                                                                            420
                                                                                                                                     AAAAGTTTCAAAAAAAAAACCTGAAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Laurasiatheria; Perissodactyla; Equidae; Equus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 cadederrecededededecrearcaaderecaadececerreaceareareaceaecae 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                     Bublot,M., Perez,J.M. and Andreoni,C.M.
Equine granulocyte-macrophage colony-stimulating factor (gm-csf)
Patent: WO 0077210-A 8 21-DEC-2000;
MERIAL (FR)
                              TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA
                                                                                                                             AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATGTGGCTGCAGAACCTGCTTCTTCTGGGCACTGTGGTTTACAGCATGCCCGCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TACAAGCAGCACTGCCCCCCCCCCCTGGAAACTTCCTGTGCAACCCCAGATGATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 100.0%; Score 435; DB 2; Length 435; Best Local Similarity 100.0%; Pred. No. 9e-105; Matches 435; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                 linear
                                                                                                                                                                                                                                                                                 DNA

    .435
    /organism="Equus sp."
    /mol_type="unassigned DNA"
    /db_xref="taxon:46122"

                                                                                                                                                                                                                                                                                 AX057390 435 bp
Sequence 8 from Patent WO0077210.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                                                                                                                                                                                                        GI:12310131
                                                                                                                                                                                                 CCAGCCCAGAAGTAA 435
                                                                                                                                                                                   CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                          AX057390.1
                                                                                                                                                                                                                                                                                                                                                     Eguus sp.
Eguus sp.
                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                   421
                                                                                                                                                                                                                                                    RESULT 2
AX057390
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                          ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORIGIN
```

g

ò ద ò

g

셤 ₹ g ઠે g ò

ò

in y

Netacas, Chordata, Craniata, Vertebrata, Euteleostomi, Mittaga, Chordata, Craniata, Vertebrata, Euteleostomi, Lotais, Lotais, Chordata, Craniata, Perispodactyla, Equidae, Equus. Lotais, Lotais, Laurasiatheria; Perispodactyla, Equidae, Equus. Lotais, Lota	101 TACAAGCACCACCCCCACCCTGGAAACTTCCTGTGCAAACCAGATGATCACCTTC 360	361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420 	421 CCAGCCCAGAAG 432              421 CCAGCCCAGAAG 432		ION Equus caball (GM-CSF) mRN ON AY040203	AY040203.2 GI:16740524 Equus caballus (horse) M Equus caballus	Eukaryota; Metazoa; Chordata; Craniata; V Mammalia; Eutheria; Laurasiatheria; Peris CE 1 (bases 1 to 779) RS Mauel,S., Commandeur,U. and Steinbach,F.	TILE CIONING OF equine granulocyte-macrophage colony-stimulating-factor JOURNAL Unpublished PERFERENCE 2 (hasee 1 to 779)	Mauel, S., Commandeur, U. and Steinbach, F. Direct Submission	JOURNAL Submitted (14-JUN-2001) Virology, Free University Berlin, Koenigin-Luise-Str.49, Berlin 14 195, Germany	J (Dates L CO //9/) Mauel, S., Commandeur, U. and Steinbach, F. Direct Submission	JOURNAL Submitted (05-NOV-2001) Virology, Free University Berlin, Koenigin-Luise-Str.49, Berlin 14 195, Germany REWARK Sequence undate by submitter	, ,	<pre>source     1. : //</pre>	/cell type="ConA activated PBMC"	/gene="GM-CSF" 1. 459 /gene="GM-CSF"	or 'acree'	colony-stimulating-factor" /protein_id=AAK72108.2" /db_xref="01:16746525"	/translation="mwlqnllllgtvvysmpaptrqpspvtrpwqhvdaikealslln nssdtaaimnetvevvsetfdabeltclqtrlklykqglrgsliklegpltmmashyk		Query Match 96.5%; Score 419.8; DB 14; Length 779; Best Local Similarity 99.3%; Pred. No. 1.1e-100; Matches 432; Conservative 0; Mismatches 2; Indels 1; Gaps 1;	1 ATGRGCTGCAGAACCTGCTTCTTGGGCACTGTGGTTTACAGCATGCCGCACCCACC	61 CGCCAACCCAGCCTGTCACTCGGCACCATGTGGATGCCATCAAGGAGGCCCTG 120
Equus caballus (horse) Bugques caballus (horse) Budgues caballus (horse) Budgues caballus (horse) Budgues caballus (horse) Budgues caballus 1 (bases 1 to 4) Budgues (base)	<b>a</b> a	oy da	& &	RESULT 5 AY040203	DEFIN	VERSION KEYWORDS SOURCE ORGANI	REFERI	TITE TOOK	AUTI	JOO.	AUTI	JOU	COMMENT							ORIGIN	Que:	ò da	
SOURCE ORGANISM REFERENCE AUTHORS TITLE JOURNAL JOURNAL JOURNAL JOURNAL JOURNAL AUTHORS TITLE JOURNAL COMBENT REFERENCE REMARK COMMENT FEATURES BOUICG GUETY MATE BEST LOCA! MATCHES  QY OY	Equus caballus (horse) Equus caballus	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteli Mammalia; Eutheria; Laurasiatheria; Perissodactyla; Equid 1 (bases 1 to 438) Vecchione, A., D'Mello, F., Kanellos, T.S., Howard, C.R., Haml	and Caronpole, B. CDNA for equine GM-CSF Unpublished 2 (bases 1 to 438)	Vecchione, A., D'Mello, F., Kanellos, T.S., Howard, C.R., Hamblin, A and Catchbole, B. Direct Submission Submitted (16-NOV-2001) Department of Pathology and Infectious	Diseases, Adyai Veceinaly College, Adyai College Street, London 10 TU, UK 3 (bases 1 to 438) Vecchione, A., D'Mello, F., Kanellos, T.S., Howard, C.R., Hamblin, A.	and Catchpole, B. Direct Submission Submitted (12-MUG-2002) Department of Pathology and Infectious Diseases, Royal Veterinary College, Royal College Street, Londo			/cell type="conA-activated 1>438		cells	ulati	factor" /protein id=nAh141017.2"	/OD_XTEL="G1:2418358" /translation="MMLQNLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLN NSSDTAAIMPTVEVVSETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYK OHCPPTLATSCATOMITFKSFKKNIKOPLFFFPFDCKKPAOKIR"		3%; Score 432; DB 14; Length 438; .0%; Pred. No. 5.6e-104; 0; Mismatches 0; Indels 0; Gaps	AIGIGGCIGCAGAACCIGCITCTICIGGGCACIGIGGITIACAGCAIGCCGCACCCACC	CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCTGGGATGCCATCAAGGAGGCCCTG	ceccaacccadecerercaeceresecateresareceareadadesecere	0610 0110 0610	81 TCTGABACGTTTGACGCCGAGGGGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA	41 CAGGGCTTGCGGGGCACCTCATCAAGCTCGAAGGCCCCTTGACCATGATGGCCACCAC	241 CAGGGCTTGCGGGGCAGCCTCATCAAGCTCGAAGGCCCCTTGACCATGATGGCGGCCCC 300 301 TACAAGCAGCACTGCCCCCCCCCCGGAACTTCCTGTGCAACCCAGATGATCACCTTC 360

ö

Gaps

ö

Length 432;

9

180

용

g

ò g ò g ઠે

ò

요

ð

ò

240

300

360

Nanjing

```
DQ010419 435 bp mRNA linear MAM 26-APR-2005 Capra hircus granulocyte-macrophage colony stimulating factor (GM-CSF) mRNA, complete cds.
                                                                                                                                                                                                                                                                                                                   TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Laurasiatheria, Cetartiodactyla, Ruminantia,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TACAAGCAGCACTGCCCCCCCCCCCGGAAACTTCCTGTGCAACCCCAGATGATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 Argrescrecasa Accrecrecreses acres established a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a Argrescrecas a 
                                                                                                                                                                                                                                                                                     61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                 Pecora; Bovidae; Caprine; Capra.

1 (bases 1 to 435)
Shu,D.C., Cao,S.X., Mao,D.G., Wu,Z.M. and Yang,L.G.
Cloning and Sequence Analysis of Capra Hircus
Granulocyte-macrophage Colony Stimulating Factor (GM-CSF)
Unpublished
2 (bases 1 to 435)
Shu,D.Q., Cao,S.X., Mao,D.G., Wu,Z.M. and Yang,L.G.
Direct Submission
Submitted (18-APR-2005) The Animal Breed Institute, Nanjing
Agricultural University, Nanjing, Jiangsu 210095, China
                                                                          Score 363.2; DB 14; Length
Pred. No. 1.2e-85;
0; Mismatches 43; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1. .435
/organism="Capra hircus"
/mol_type="mRNA"
/db_xref="taxon:9925"
1. .435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /note="cytokine"
                                                                                                                                                                                       1 ATGIGGCTGCAGAACCTGCTTCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DQ010419.1 GI:62825817
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        'gene="GM-CSF"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1. .435
/gene="GM-CSF"
                                                                     83.5%;
nilarity 90.0%;
Conservative 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Capra hircus (goat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421 CCAGCCCAGAAG 432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ccagcccagaag 432
factor"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Capra hircus
                                                                          Query Match
Best Local Similarity
Matches 389; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 JOURNAL
REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    gene
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 7
DQ010419
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                           ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                              q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /procein_id="CAA39463.1"
/bb.xref="G1:6983760"
/db.xref="GOA:09MXK4"
/db_xref="Topa:09MXK4"
/db_xref="Topa:09MXK4"
/db_xref="UniProcKB/TrEMBL:.09MXK4"
/tb_xref="UniProcKB/TrEMBL:.09MXK4"
/tanslation="MMIOMLILGTVVCSFSAPTROPSPVTRPWQHVDAIKEALSLLN
DSTDTPAAVMDETVEWVSEMFDSQEPTCLQTRLELYKQGIRGSLTSLTGSLTWMASHYK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Direct Submission
Submitted (12-OCT-1990) O'Brien P., Commonwealth Scientific &
Industrial Research, (CSIRO) Division of Animal Health, Private Bag
No 1, Parkville Vic 3052, Australia
Stimulates bone marrow progenitor cells to proliferate and
differentiate.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OGGMCSF MAM 18-APR-2005
Ovine GM-CSF mRNA for granulocyte-macrophage colony stimulating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   O'Brien, P.M., Rothel, J.S., Seow, H.F. and Wood, P.R. Cloning and sequencing of the cDNA for ovine granulocyte-macrophage colony-stimulating factor (GM-CSF)
                                                                                                   240
                                                                                                                                                                                                                240
                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                           TACAAGCAGCACTGCCCCCCCCCCTGGAAACTTCCTGTGCAACCCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
  CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Ruminantia;
Pecora; Bovidae; Caprinae; Ovis.
                                                                                                                                                                                       TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAAGCTGTACAAA

    .432
/product="granulocyte-macrophage colony-stimulating

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    codon_start=1
|product="granulocyte-macrophage colony-stimulating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   X55991.1 GI:6983759
cytokine; granulocyte-macrophage colony stimulating factor.
Ovis aries (sheep)
Ovis aries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KHCPPTQETSCETQIITFKSFKENLKDFLFIIPFDCWEPAQK"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1. 432
/organism="Ovis aries"
/mol_type="mRNA"
/db_xref="taxon:9940"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420 CCAGCCCAGAAGTAA 434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (bases 1 to 432)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 . >432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    O'Brien, P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     X55991
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       mat_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                                                                                                 301
                                                          121
                                                                                                                                                                181
                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REFERENCE
AUTHORS
TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 6
OOGMCSF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMMENT
```

```
Cervus elaphus (red deer)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCAGTCCAGAAGTGA 448
                    <1. . . . 448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       U14392
U14392.1 GI:537895
                                                                                                                                                                                                                                                                 Best Local Similarity 89.7
Matches 390; Conservative
                                                                                                                                                                                       14. .64
                                                                                                                                                                                       sig_peptide
mat_peptide
                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      434
                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                       mRNA
CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 9
CEU14392
                                                                                                                                                                                                                            ORIGIN
                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     원
                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                               /trānslation="MWLQNLLLLGTVVCSFSAPTRQPSPVTWPWQHVDAIKEALSLLN
DSSDTAAVVANETVEVVSEMFDSQEPTCLQTRLELYKQGLRGSLTSLTGSLTMMASHYK
KYCPPTQETSCETQIITFKSFKENLKDFLFIIPFDCWEPVQK"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ovine mRNA for granulate-macrophage stimulating factor (GM-CSF).
X53561
                                                                                                                                     ö
                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                  TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                    300
                                                                                                                                                                                                                                                                                                                                                                                                                      TACAAGCAGCACTGCCCCCCACCCTGGAAACTTCCTGTGCAACCCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAAAGTITCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAAAGITICAAAAGAACCIGAAGGATIICCITITIAICAITICCCITIGACIGCIGGAA 420
                                                                                                                                                                                                                CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                              9
                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Direct Submission
Submitted (20-JUN-1990) McInnes C.J., Moredum Research Institute,
408 Gilmerton Rd., Edinburgh EH17 7JH, Scotland, UK
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            granulocyte-macrophage colony stimulating factor; signal peptide.
Ovis aries (sheep)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Eukaryota; Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Laurasiatheria, Cetartiodactyla, Ruminantia,
Pecora, Bovidae, Caprinae, Ovis.
                                                                                                                                                              ATGTGGCTGCAGAACCTGCTTCTCCTGGGGCACTGTGGGGTCTGCAGCTTCTCCGCACCCACT
                                                                                                                                                                                                                               CGCCAACCCAGCCCTGTCACCTGGCCCTGGCAGCATGTGGATGCCATCAAAAAAGAGGCCCTG
                                                                                                                                                                                                                                                                               TCTGAAATGTTTGACTCCCAGGAGCCGACATGCTTGCAGACTCGCCTGGAGCTGTACAAG
                                                                                                                                                                                                                                                                                                                                                                                    Gaps
'product="granulocyte-macrophage colony stimulating
                                                                                                                                     .;
0
                                                                                                               435;
                                                                                                                                     45; Indels
                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ovine
factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  McInnes, C.J. and Haig, D.M.
Cloning and expression of a cDNA encoding granulocyte-macrophage colony-stimulating Gene 105 (2), 275-279 (1991)
                                                                                                            83.4%; Score 363; DB 14;
89.7%; Pred. No. 1.3e-85;
live 0; Mismatches 45;
                    /protein_id="AAY16326.1"
/db_xref="G1:62825818"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ccagrccagaacraa 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2 (bases 1 to 495)
McInnes, C.J.
                                                                                                                          Best Local Similarity 89.7
Matches 390, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   X53561.1 GI:1800
             factor"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ovis aries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1937025
                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                              -
                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                      301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                61
                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OOGMCSFR
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PUBMED
REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURES
                                                                                     ORIGIN
                                                                                                                                                                                   원
                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                      임
                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             원
                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                ठे
                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
```

/organism="Ovis aries"

```
Cervus elaphus granulocyte-macrophage colony-stimulating factor (GM-CSF) mRNA, partial cds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCCAACCCAGCCCTGTCACTCGGCCCTGdCAGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    74 CGCCAACCCAGCCCTGTCACCCGGCCCTGGCACGCATGTGGATGCCATCAAGAAGGCCCTG 133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               374 AAAAGTTTCAAAGAAACCTGAAGGATTTCCTTTTATCATTCCCTTTGACTGCTGGGAA 433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          rcreanarerriencreceaegeceaearecreeneeneereecereereereeraeae 253
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          314 TACAAGAAACACTGCCCCCCACCCAGGAAACTTCCTGTGAAACCCAGATTATCACCTTC 373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Cervus elaphus
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Ruminantia;
Pecora; Cervidae; Cervinae; Cervus.
1 (bases 1 to 432)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14 ATGTGGCTGCAGAACCTGCTTCTCCTGGGACTGTGGTCTGCAGCTTCTCCGCACCCACT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TACAAGCAGCACTGCCCCCCCCCCCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 ATGTGGCTGCAGAACCTGCTTCTTGGGCACTGTGGTTTACAGCATGCCCGCACCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                 83.4%; Score 363; DB 14; Length 495; 89.7%; Pred. No. 1.4e-85; ive 0; Mismatches 45; Indels
/mol_type="mRNA"
/isolate="pGMCSF22"
/db_xref="taxon:9940"
                                                                                                                                                                                                                                                                                                                                          65. .445
/product="GM-CSF"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Lockhart, E.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
```

οţ

```
/db_xref="G1:497830"
/translation="WMLQDLLLGTVVCSISAPTRPPSPVTRPWQHVDAIKEALSLLN
NSNDTAAVMAETVDIVCEMEDPQEPCVQTRLNLYKQGLRGSLTRLKSPLTLLAKHYE
QHCPLTBETGCETQSITFKSPKD&LNKFLFTIPPDCWEPAQK"
                                                                           Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Laurasiatheria, Cetartiodactyla, Suina, Suidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181 rereaaarerrreacececadadeceacarecerecadacreecreecereaacereraaac 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAAAGTITCAAAAAGAACCIGAAGGAITITCIGITIGAGAICCCGITIGACIGCIGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241 cadedecridededededecricaerraddereaagadedecrirdaererierriddedaagad 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TACAAGCAGCACTGCCCCCCCCCCTGGAAACTTCCTGTGCAACCCCAGATGATCACCTTC 360
                                                                                                                                                       cDNA cloning of porcine granulocyte-macrophage colony-stimulating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTGAAACGTTTGACGCCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 ATGTGGCTGCAGAACCTGCTTCTCCTGGCCACTGTGGTCTGCAGCATCTCCGCTCCCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /cell_line="pp25"
/cell_type="IL-2 dependent CD4plus T-cell"
1. .435
/inference="non-experimental evidence, no additional
/note="GM-CSF"
                                                                                                                                                                                                                                                 Direct Submission
Submitted (06-OCT-1993) Shigeki Inumaru, National Institute
Animal Health, Biological Products Research Division; 3-1-1,
Kannondai, Tsukuba, Ibaraki 305, Japan (Tel:81-298-38-8624,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /product="granulocyte-macrophage colony-stimulating
factor"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         76.8%; Score 334.2; DB 14; Length 435; 85.5%; Pred. No. 6.1e-78; ive 0; Mismatches 63; Indels 0;
                                                                                                                                                                                     Immunol. Cell Biol. 73 (5), 474-476 (1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /protein_id="BAA04649.1"
                                                                                                                                                                                                                                                                                                                                                                          /mol_type="mRNA"
/db_xref="taxon:9823"
/clone="pPGM"
/cell_line="pp25"
                                                                                                                                                                                                                                                                                                                                                              organism="Sus scrofa"
                                                                                                                                                                                                                                                                                                                 Fax:81-298-38-7880)
Location/Qualifiers
                                                                                                                                          Inumaru, S. and Takamatsu, H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /codon_start=1
                GI:497829
                                                                                                                                                                                                                     (bases 1 to 435)
numaru, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Local Simitarity vira
                                               (pig)
                                               Sus scrofa
                                                               Sus scrofa
D21074
D21074.1
                                                                                                                                                                                                        8595928
                                                                                                                                                                           factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                   source
                                                               ORGANISM
                                                                                                                                                                                                                                                    TITLE
JOURNAL
                                                                                                                                                                                                                     REFERENCE
AUTHORS
 ACCESSION
                VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                      JOURNAL
                                                                                                                                                                                                        PUBMED
                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                           CDS
                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                       TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                   /db_xref="G1;537896"
/translat.ion="MMLQNLLLGTVVCSFSAPTRPASPVTRPWQHVDA!KEALSLLN
HSSDTAAVNMETVBVVSEMPDSQEFTCLQTBLKLYKQGLRGSLTSLSGSLTNMARHYE
QHCPPTQETSCETQTITFKSFKENLKDFLFIIPFDCWEPAQK"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MAM 11-JAN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           rergaaargrirgaereecaagaageegacaargeeragaacreecergaagereraaag 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241 checiecriceccececacereaceaerererececececerecerentententesecae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TACAAGCAGCACTGCCCCCCCCCCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                               Direct Submission
Submitted (05-SEP-1994) Euan A Lockhart, Microbiology, Deer
Research Laboratory, University of Otago, Union St., Dunedin, New
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CGCCAACCCAGCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Argregerricagaacergerrerecregedaerergererecrecagerrerecedaeer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                      1. :>432
gene="GM-CSF"
Codon start=1
product="granulocyte-macrophage colony-stimulating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         82.4%; Score 358.4; DB 14; Length 432; 89.4%; Pred. No. 2.2e-84; ive 0; Mismatches 46; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PIGGMCSF 435 bp mRNA linear Sus scrofa GM-CSF mRNA for granulocyte-macrophage colony-stimulating factor, complete cds.
   cervine GM-CSF
                                                                                                                                                          'organism="Cervus elaphus"
                                                                                                                                                                                                                                                                                                                    protein_id="AAA21439.1"
                                                                                                                                                                      /mol_type="mRNA"
/db_xref="taxon:9860"
. .432
                                                                                                                                                                                                                                                                                                                                                                                                              /note="PCR primer"
complement(413. .432)
/note="PCR primer"
                                                                                                                             Location/Qualifiers
    ŏ
   Cloning and sequencing
Unpublished
2 (bases 1 to 432)
Lockhart, E.A.
                                                                                                                                                                                                                        gene="GM-CSF"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCAGCCCAGAAG 432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCAGCCCAGAAG 432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity 89.4
Matches 386; Conservative
                                                                                                                                                                                                                                                                                                     factor"
                                                                                                                Zealand
                                                                                                                                                                                                                                                                                                                                                                                               primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                            primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 10
PIGGMCSF
   TITLE
JOURNAL
REFERENCE
                                                                                                                                                                                                           gene
                                                  AUTHORS
                                                                               JOURNAL
                                                                                                                                                                                                                                       CDS
                                                                                                                             FEATURES
                                                                  TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      \dot{\delta}
```

ö

Gaps

. 0

9

180 240

180

셤 ઠે g RESULT 11

AX067831

FEATURES

ORIGIN

gg

a

ò

ò

g

g

8

음

ò

g ઠ 요

8

```
/db_xxef="G1:15131328"
//db_xxef="G1:15131328"
//translation="MMLQNLLLLigTVVCSISAPTRPPSPVTRPWQHVDAIKEALSLLN NSNDTAAVMNETUD-WMLQNLLLLigTVVCSISAPTRPPSPVTRPWQHVDAIKEALSLLN NSNDTAAVMNETVDVVCEMFDPQEPTCVQTRLNLYKQGLRGSLTRLKSPLTLLAKHYE QHCPLTRETSCETQSITFKSFROSLNKELFTIPFDCWGPVKK"

1. .20
//tote="based on the porcine genomic DNA sequence"
//oce="based on the porcine genomic DNA sequence"
                                                                                                                                                                                                                                       To be sees 1 to 435)
Gloster, S.E., Sandeman, R.M. and Strom, A.D.G.
Gloster, S.E., Sandeman, R.M. and Strom, A.D.G.
Cloning of a cDNA and gene encoding porcine granulocyte macrophage-
colony stimulating factor (GM-CSF)
Unpublished
Glasser to 435)
Gloster, S.E., Sandeman, R.M. and Strom, A.D.G.
Direct Submission
Submitted (19-AUG-1996) Animal Health, CSIRO, Park Drive,
Melbourne, VIC 3052, Australia
Location/Qualifiers
                                                                                                                                                  Eukaryota, Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalia; Eutheria; Laurasiatheria; Cetartiodactyla; Suina; Suidae;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 CGCCCACCCAGCCCTGTCACCCGGCCCTGGCATGTGGATGCCATCAAAGAAGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181 TGTGAAATGTTTGACCCCCAGGAGCCGACATGCGTGCAGACTCGCCTGAACCTGTACAAG 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241 cadedecricededededecreacradecreaadadeceerricaereristradecadedad
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301 TATGAGCAGCACTGCCCCTCACCGAGGAAACTTCCTGTGAAACCCAGTCTATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 ATGTGGCTGCAGAACCTGCTTCTTGGGGACTGTGGTTTACAGCATGCCCGCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301 TACAAGCACTGCCCCCCCCCCCCTGGAACTTCCTGTGCAACCCAGATGATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAAAGTITCAAAAAGAACCIGAAGGAITITCIGIIIGAGAICCCGIITGACGGGAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        product="granulocyte macrophage-colony stimulating
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        76.5%; Score 332.6; DB 14; Length 435; 85.3%; Pred. No. 1.6e-77; ive 0; Mismatches 64; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ell_type="alveolar macrophages".435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein_id="AAB06854.1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1. .435
/organism="Sus scrofa"
/nol_type="mRNA"
/db_xref="taxon:9823"
/cell_type="alveolar mac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /function="cytokine"
/codon_start=1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      gene="GM-CSF"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   gene="GM-CSF"
                               GI:1513327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity 85.3
Matches 371; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eactor"
                                                                                            Sus scrofa (pig)
                                                                                                                           scrofa
                         067175.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             primer_bind
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      primer_bind
                                                                                                                        Sus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                            VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                              REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
AUTHORS
   ACCESSION
                                                                                                                                                                                                                                                                                                                                                                   JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi,
Mammalia, Butheria, Laurasiatheria, Carnivora, Fissipedia, Felidae,
Felinae, Felis.
                                                                                                                                                                                                                                                                             PAT 19-JAN-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SSU67175 435 bp mRNA linear MAM 30-AUG-1996
Sus scrofa granulocyte macrophage-colony stimulating factor
(GM-CSF) mRNA, complete cds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               180
361 AAAAGTTTCAAAGACAGTCTGAACAAATTTCTTTTTACCATCCCCTTTGACTGCTGGGAA 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61 AGTTCACCCAGCCTCTGTCACTCGCCCTGGCAACACGCGGGAGGCTCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TACAAGCAGCACCCCCCCCCCCCCCGGAAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TacaadcadcadcacccccTTacTccggaaacgcccTGTgaaaccccaGaCTaTcAccTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAAAATTTCAAAGAAATCTGAAGGATTTTCTGTTTAACATCCCCTTTGACTGCTGGGAAA 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTGAAATGTTTGACCCTGAGGAGCCGAAATGCCTGCAGACTCACCTAAAAGCTGTACGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          <u> Arigidecidecada acertecire de central en acerte acerte acerte acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en acerte en ac</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 ATGIGGCTGCAGAACCIGCTICTICIGGGCACTGIGGITIACAGCAIGCCCGCACCCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 435;
                                                                                                                                                                                                                                                                             linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        64; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Fischer, L.J., barzu-le Roux, S. and Audonnet, J.C. Dna vaccines for pets and sport animals Patent: WO 0077043-A 68 21-DEC-2000; MERIAL (FR)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 332.6; DB :
Pred. No. 1.6e-77
                                                                                                                                                                                                                                                                             DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1. .435
/organism="Felis catus"
/mol_type="unassigned DNA"
/db_xref="taxon:9685"
                                                                                                                                                                                                                                                                          AX067831 435 bp
Sequence 68 from Patent WO0077043.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                   AX067831.1 GI:12329709
                                                         CCAGCCCAGAAGTAA 435
                                                                                            CCAGCCCAGAAGTGA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           76.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCAGTCAAGAAGTGA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 371, Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                               Felis.catus (cat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Felis catus
                                                                                                                                                                                                                                                                                                                                          AX067831
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                   ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
JOURNAL
```

ö

. 0

9

240

420

RESULT 12

8

SSU67175

ω

```
Lai, Eutheria; Craniata; Vertebrata; Euteleostomi;
Lainae; Felis.

(calinae; Felis.

(bases 1 to 444)

AUTHORS

Sin, G., Yang, S., Dreitz, M.J. and Wonderling, R.S.

Canine and feline immunoregulatory proteins, nucleic acid molecules and method of using the same

TITLE and method of using the same

TOURNAL PREAR CORP

ENT BY JP 2002516104-A/94

PD 04-UNN-2002

PF 28-MAY-109

PR 29-MAY-109

PI ...
                                                                                                                                                                                                                                   BD211588 444 bp DNA linear PAT 17-JUL-2003 Canine and feline immunoregulatory proteins, nucleic acid molecules and method of using the same.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C07K14/56, C07K14/705, C07K16/24, C07K16/28, C12N1/21, C12N5/10, PC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  A61K45/00, A61K48/00, A61P37/02, A61P37/04, C07K14/475, C07K14/535,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  375 AGTICACCCAGCTCTGTCACTCGGCCCTGGCAACACGTGGATGCCATCAAGGAGGCCCTG 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 CGCCAACCCAGCCCTGTCACTCGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                  250 CAGGGCCTACGGGGCAGCCTCATCAGCGAGCCTCTGAGAATGATGGCCCAACCAT 309
                                                  110 TACAAGCAGCACTGCCCCCTTACTCCGGAAACGCCCTGTGAAACCCAGACTATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TACAAGCAGCACTGCCCCCCCCCCCCTGGAAACTTCCTGTGCAACCCCAGATGATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PC G01N33/50,C12N15/00,A61K37/02,A61K37/66,C12N5/00 CC and feline immunoregulatory proteins, nucleic acid CC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 444;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            organism='Felis catus (cat)'.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      method of using the same
Key Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            76.5%; Score 332.6; DB 2
llarity 85.3%; Pred. No. 1.6e-77;
Conservative 0; Mismatches 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /organism="Felis catus"
/mol type="genomic DNA"
/db xref="taxon:9685"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1. .444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Location/Qualifiers
                                                                                                                                             CCAGCCCAGAAGTAA 435
                                                                                                                                                                     430 CCAGACCAGAAGTAA 444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         A61K39/395,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     C07K14/54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              G01N33/15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         molecules of CC methoder FH Key FT source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       371;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2222
                                301
                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                 RESULT 14
BD211588/c
                                                                                                                                                                                                                                                                                                                                SOURCE
ORGANISM
                                                                                                                                                                                                                                                          DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                    AUTHORS
TITLE
                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                      REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                             JOURNAL
                                                                                                                                                                                                                                                                                                    VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                            ò
                                                        원
                                                                                       à
                                                                                                                a
                                                                                                                                            à
                                                                                                                                                                                                                                            Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Eutheria; Laurasiatheria; Carnivora; Fissipedia; Felidae; Felihae; Feliha.

[ Labass 1 to 444)

Sim,G., Yang,S., Dreitz,M.J. and Wonderling,R.S.

Canine and feline immunoregulatory proteins, nucleic acid molecules and method of using the same
Patent: JP 2002516104-A 93 04-JUN-2002;
                                                                                                                                                                                                                                                                                                                                                                         CO7K14/54,
CO7K14/56,CO7K14/705,CO7K16/24,CO7K16/28,C12N1/21,C12N5/10, PC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                              DNA linear PAT 17-JUL-2003 proteins, nucleic acid molecules
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A61K45/00, A61K48/00, A61P37/02, A61P37/04, C07K14/475, C07K14/535,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 10 AGTTCACCCAGCTCTGTCACTCGGCCCTGGCAACACGTGGATGCCATCAAGAGGCCCTG 129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361 AAAAGTTTCAAAGACAGTCTGAACAAATTTCTTTTTACCATCCCCTTTGACTGCTGGGGGG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Canine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Archectecacacteristricerececacieresistes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PC G01N33/50,C12N15/00,A61K37/02,A61K37/66,C12N5/00 CC and feline immunoregulatory proteins, nucleic acid CC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 444;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  76.5%; Score 332.6; DB 2;
85.3%; Pred. No. 1.6e-77;
ive 0; Mismatches 64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                           Canine and feline immunoregulatory and method of using the same.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (10). (441). Location/Qualifiers

    .444
    /organism="Felis catus"
/mol_type="genomic DNA"
/db_xref="taxon:9685"

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          method of using the same
                                                                                                                                                                                        BD211587.1 GI:33021357
                                                             421 CCAGTCAAAAAGTAA 435
                                                                                                                                                                                                        JP 2002516104-A/93.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 85.33
Matches 371; Conservative
                                 CCAGCCCAGAAGTAA
                                                                                                                                                                                                                    Felis catus (cat)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             molecules and CC method of FH Key FT CDS
                                                                                                                                                                                                                                    Felis catus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     G01N33/15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2222
                                                                                                                                                                                                                                                                                                                                                                             SO NA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     source
                                                                                                                                                                                        VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                               DEFINITION
                                                                                                                                                                                                                                                                                         REFERENCE
AUTHORS
TITLE
                                                                                                                                                                           ACCESSION
                                                                                                        RESULT 13
                                                                                                                                                                                                                                                                                                                                                 JOURNAL
                                                                                                                    BD211587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FEATURES
                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ωp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                ò
                                                      셤
```

ö

```
completed: May 26, 2006, 01:32:18
ne : 3047 secs
                                                                                                       Search cor
Job time
                          g
                                                   ò
                                                                    원
             ઠે
                                                                                                                                                                                                                                                                                PAT 20-DEC-2002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                240
TCTGAAATGTTTGACCCTGAGGAGCCGAAATGCCTGCAGCTCACCTAAAGCTGTACGAG 196
                                                                        61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCTGAAATGTTTGACCCTGAGGAGCGGAAATGCCTGCAGACTCACCTAAAGCTGTACGAG 249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CAGGCCTACGGGCAGCCTCATCAGCCTCAAGGAGCCTCTGAGAATGATGGCCAACCAT 309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      310 TACAAGCAGCACTGCCCCTTACTCCGGAAACGCCCTGTGAAACCCAGACTATCACCTTC 369
                                                                                                                   TACAAGCAGCACTGCCCCCCCCCCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TACAAGCAGCACTGCCCCCCCCCCTGGAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             69
                                                                                                                                       16
                                                                                                                               70 AGTICACCCAGCTCTGTCACTCGGCCCTGGCAACACGTGGATGCCATCAAGGAGGCCCTG
                                TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .;
0
                                                                                                                                                                                                                                                                                                                                           Unknown.
Unclassified.
Unclassified.
Sim, G.-K., Yang, S., Dreitz, M.J. and Wonderling, R.S.
Canine IL-4 immunoregulatory proteins and uses thereof
Patent: US 6471957-A 119 29-OCT-2002;
Heska Corporation; Fort Collins, CO;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              76.5%; Score 332.6; DB 2; Length 444; 85.3%; Pred. No. 1.6e-77; Arive 0; Mismatches 64; Indels 0;
                                                                                                                                                                                                                                                                                linear
                                                                                                                                                                                                                                                                                DNA
                                                                                                                                                                                                                                                                                AR241565
Sequence 119 from patent US 6471957.
AR241565.1 GI:2728724
                                                                                                                                                                                                                                                                                                                                                                                                                                           1. .444
/organism="unknown"
/mol_type="genomic DNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                      CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                         ccagaccagaagraa 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Matches 371; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                    255
                                                                        241
                                                                                            195
                                                                                                                                                                                75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      250
            315
                                                                                                                   301
                                                                                                                                       135
                                                                                                                                                            361
                                                                                                                                                                                                      421
                                                                                                                                                                                                                          15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local
                                                                                                                                                                                                                                                         RESULT 15
AR241565
LOCUS
DEFINITION
ACCESSION
VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                             ORGANISM
                                                                                                                                                                                                                                                                                                                                                                REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                  JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORIGIN
                                                  셤
                                                                    ठे वि ठे
                                                                                                                               g
                                                                                                                                                                              g
                                                                                                                                                    ò
                                                                                                                                                                                                     δ
                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
```

```
AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                    421 CCAGCCCAGAAGTAA 435
                                                                              444
                                                                              CCAGACCAGAAGTAA
361
                                                                              430
```

BEST AVAILABLE COPY

e jin

```
RESULT 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ABZ80828
                                                                                                                                   (without alignments)
6754.851 Million cell updates/sec
                                                                                                                                                                                                                               1 atgtggctgcagaacctgct......ggaagccagccagaagtaa 435
                                                                                                             May 26, 2006, 00:33:29 ; Search time 449 Seconds
                                                                                                                                                                                                                                                                                                                                                                 10489840
GenCore version 5.1.8 (c) 1993 - 2006 Biocceleration Ltd.
                                                                                                                                                                                                                                                                                                                                                           Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                           5244920 segs, 3486124231 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                       - nucleic search, using sw model
                                                                                                                                                                                                                                                                 IDENTITY NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       genesegn1980s:*
genesegn1990s:*
genesegn2000s:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   geneseqn2001as:*
geneseqn2001bs:*
                                                                                                                                                                                                                                                                                                                                                                                                   Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                         US-10-614-481-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N_Genesed_8:*
                 Copyright
                                                                                                                                                                                                                                                                   Scoring table:
                                                                                                                                                                                         Title:
Perfect score:
                                                                         OM nucleic
                                                                                                                                                                                                                                 Sequence:
                                                                                                                                                                                                                                                                                                                           Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Database
                                                                                                               Run on:
```

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

geneseqn2003cs:\*
geneseqn2003ds:\*
geneseqn2004as:\*
geneseqn2004bs:\*

geneseqn2005s:\* geneseqn2006s:\*

101 111: 113: 15:

geneseqn2002as:\*geneseqn2002bs:\*geneseqn2003as:\*geneseqn2003bs:\*

ADD 4022 AAV83189 AAV83189 AAA8328 AAA84392 ABZ80826 ACC78877 ADD 496893	41142644111 200044	435 15 432 4 A 435 2 A 435 2 A 435 10 435 11 435 11 435 11 435 11	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	76.2 435 12 76.1 435 2 76.1 435 2 A 76.1 435 2 A 76.1 435 1 76.1 435 1 76.1 435 12 76.1 435 12
AD076022 AAF55040 AAA81189 AAA64392 AAA64392 AAA64392 AAA64392 AAA64392 AAA0449689 AAD0742494	2	435 15 4335 15 4335 16 4335 17 4335 11 435 11 435 11 435 11 435 11 435 11	4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	76.2 435 12 76.2 435 45 76.1 435 2 A 76.1 435 2 A 76.1 435 10 76.1 435 12 76.1 435 13 76.1 435 14
(10) 0(1)(14.4				76.2 76.1 76.1 76.1 76.1 76.1 76.1

Ady99885 Human imm	Adl16729 Human gra	Aag04018 Granulocy	Adno7714 Human G-C	Adpl0387 Reference	Ady19523 DNA encod	Ady16394 DNA encod	Adz26536 Human GMS	Aeb54678 DNA encod	Aan60364 Human gra	Aag84865 Clone pcD	Human		Aah28217 Nucleotid	Abz96833 Human nuc	Abd20682 Human pu	Adz08738 Adenovira	Aeb95949 Oncolytic	Aee75748 Recombina	Adz08733 Adenovira	Aeb95944 Oncolytic	Aee75743 Recombina	Aaa35020 Human ade	Aaf21142 Human low	Abz96836 Human nuc	Abd20685 Human pul	Ady99889 Exemplary
ADY99885	ADL16729	AAQ04018	ADN07714	ADP10387	ADY19523	ADY16394	AD226536	AEB54678	AAN60364	AAQ84865	AAA35017	AAF21139	AAH28217	AB296833	ABD20682	ADZ08738	AEB95949	AEE75748	ADZ08733	AEB95944	AEE75743	AAA35020	AAF21142	AB296836	ABD20685	ADY99889
14	12	~	12	12	14	14	14	14	٦	7	m	m	4	70	1	14	14	15	14	14	15	m	٣	2	11	14
435	448	763	781	781	781	781	781	781	787	787	789	789	789	789	789	900	900	900	1172	1172	1172	5115	5115	5115	5115	7173
76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1
331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	331
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	c 45

## ALIGNMENTS

BP.

ABZ80828 standard; DNA; 435

DNA vaccine containing plasmid and cationic lipid containing quaternary ammonium salt, useful for protecting pets and sports animals against, Granulocyte-macrophage colony stimulating factor; GM-CSF; ds; gene; antibacterial; antiviral; vaccine; animal; immunogen; DMRIE; cationic lipid; quaternary ammonium salt; canine distemper virus; canine parainfluenza virus; canine herpes virus; feline herpes virus; equine herpes virus; to horse. Equine granulocyte-macrophage colony stimulating factor gene Audonnet JF; 1. .435
/\*tag= a
/product= "Equine GM-CSF" Location/Qualifiers Fischer LJ, Barzu-Le Roux S, 08-JUN-2000; 2000WO-FR001592. 99FR-00007604. 99US-0144490P. (first entry) WPI; 2001-071259/08. P-PSDB; ABP98711. Equus caballus WO200077043-A2 (MERI-) MERIAL 10-JUN-1999; 19-JUL-1999; 27-JUN-2003 21-DEC-2000. ABZ80828; Key THE CONTRACT OF THE CONTRACT O

```
181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                   Equus sp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local
                                                                                                                                                                                                                                                                                            Novel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches
                                                        Key
 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                          The invention relates to a novel DNA vaccine against pathogens that affect pets and sports animals comprises a plasmid containing a sequence, expressible in vivo, that encodes an immunogen from the relevant pathogen and a cationic lipid containing a quaternary ammonium salt, particularly No.(2-hydroxypethyl)-N.N-dimethyl-2,3-bis(tetradecyloxy)-1-propanammonium (DMRIE). The immunogens are particularly taken from canine distemper virus (CDV), canine parainfluenza virus type 1 (FMV-1), equine herpes virus type 1 (EHV-1), equine herpes virus type 1 (EHV-1), and EHV type 4 (EHV-4). The method may also include the use of a immunogenic stimulation factor especially a granulocyte-macrophage colony stimulation factor especially a granulocyte-macrophage for which may be multivalent, are particularly used to protect dogs, cate and horses against bacterial and viral diseases, particularly those caused by the paramyxoviridae. Formulations with the quaternary
                                                                                                                                                                                                                                                                                                                                                                            120
                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cadedcrirecesescascercarcaagerceaassececerreacearsarssecasecae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ammonium salt provide a better immune response and thus more efficient protection, particularly when administered subcutaneously. This sequence represents the gene encoding an equine GM-CSF used in the invention
                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Immunostimulatory, granulocyte-macrophage colony stimulating factor; horse, reverse transcriptase PCR, colony formation; blood, cytotoxicity,
                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                            CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              rergaaacgrirgaegecgaggagergaeargecrgeagaeregeagaegergracaaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TACAAGCAGCACTGCCCCCCCCCTGGAAACTTCCTGTGCAACCCCAGATGATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG
                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                         ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Equine granulocyte-macrophage colony stimulating factor gene.
                                                                                                                                                                                                                                                                                 Length 435;
                                                                                                                                                                                                                                                           Sequence 435 BP; 109 A; 132 C; 105 G; 89 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                 100.0%; Score 435; DB 4; L
100.0%; Pred. No. 1.4e-111;
iive 0; Mismatches 0;
                        Example 10; Fig 26; 109pp; French
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                standard; DNA; 435 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-JUN-2002 (first entry)
                                                                                                                                                                                                                                                                                              Best Local Similarity 100.
Matches 435, Conservative
e.g. herpes virus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAF28953
                                                                                                                                                                                                                                                                                                                                                                               61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAF28953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAF28953
ID AAF2
XX
XX
AC AAF3
XX
DT 18-6
XX
XX
DB Equi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                       ద
                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
```

```
This sequence represents the gene encoding a horse granulocyte-macrophage colony stimulating factor (GM-CSF). The gene was isolated from horse lymphocytes using a reverse transcriptase PCR method with primers ARF28960. GM-CSF induces colony formation in various types of blood cells and particularly induces cytotoxicity of macrophages; cimilates antibody-dependent cytotoxicity, and causes recruitment of leucocytes to sites of inflammation. Vettors containing the gene or the protein itself, are useful as adjuvants in immunogenic or vaccinating compositions for horses, e.g. for protection against equine herpes, tetanus, Borrelia burgdorferi, rables etc. Also as non-specific stimulators of the immune system. In a specific example, plasmid pJP097, containing the sequence for equine GM-CSF was used to transform CHO-K1 cells and the transformants grown for the burse the culture supernatant was then added to culture medium being used to grow porcine bone marrow cells. After 14 days, the mean number of colonies per culture box was 12-15, compared with none for cells grown in absence of GM-CSF. Equine GM-CSF allows a reduction in the amount of immunogenic/vaccinating component required, and may induce a response in enimals that would otherwise be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 Argregeriechedakeereerretrerregeakerergerrinkekeerreceekeekeekee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DNA encoding equine granulocyte-macrophage colony-stimulating r, useful as adjuvant for vaccines and as non-specific
inflammation; vector; adjuvant; immunogėn; vaccination; vaccine; equine herpes; tetanus; Borrelia burgdokferi; rabies; gene; ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 435 BP; 109 A; 132 C; 105 G; 89 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            100.0%; Score 435; DB 4; L 100.0%; Pred. No. 1.4e-111;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
                                                                                                                                                                                                                                                                 "equine GM-CSF"
                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Andreoni CMP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                08-JUN-2000; 2000WO-FR001590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Claim 3; Fig 1; 34pp; French.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             99US-0138843P
                                                                                                                                                                                                                                                              /product=
                                                                                                                                                                                                                                      ซ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                       .435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bublot M, Perez JM,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 2001-080689/09.
P-PSDB; AAB37147.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               factor, useful a
immunostimulant
                                                                                                                                                                                                                                                                                                                                  WO200077210-A1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      non-responders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (MERI-) MERIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                10-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                435;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
```

ö

9 9 240

240

180

m

g

q ò g ò g

ò

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241 cadadecricedadecadecreacearereacadecreerraaceardarddecadecae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   recombinant gamma-interferon, a cytokine-like molecule. The ovine cytokines will be useful in the intensive livestock industries such as live animal export trade, feed-lots and intensive rearing industries, where animals are subjected to great environmental challenge with infectious diseases, partic. respiratory infections, and are more properto immunodepressive effects. The cytokines may be used for treatment or prophylaxis to maintain, stimulate or enhance immunoresponsiveness. They may also be useful as natural adjuvants for vaccines for sheep and cattle. See also AAQ12131-15, AAQ1311-15, AAQ24317-18 and AAQ25857-58. (Updated on 25-MAR-2003 to correct PA field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGCTCGCCTGAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CGCCAACCCAGCCCTGTCACCCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGCCTTCTGAACGACAGCACTGACACTGCTGTGATGAAACAGTAGAAGTCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181 rergaaarerrigaereceaegaeceaearecreerecaeaereeeregaeereraeae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TACAAGCAGCACTGCCCCCCCAGCCCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                          Granulocyte-macrophage colony stimulating factor; GM-CSF; ds; gene, antibacterial; antiviral; vaccine; animal; immunogen; DMRIE; cationic lipid; quaternary ammonium salt; canine distemper virus; canine parainfluenza virus; canine herpes virus; feline herpes virus; equine herpes virus; dog; cat; horse.
                                                                                                                                                                                                                                                                                                                                                                               Gape
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Feline granulocyte-macrophage colony stimulating factor gene 3R4
                                                                                                                                                                                                                                                                                                                                                                               ;
0
                                                                                                                                                                                                                                                                                                                           Length 432;
                                                                                                                                                                                                                                                                           Sequence 432 BP; 101 A; 138 C; 103 G; 90 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                          43;
                                                                                                                                                                                                                                                                                                                              DB 2;
                                                                                                                                                                                                                                                                                                                         Query Match

83.5%; Score 363.2; DB 2

Best Local Similarity 90.0%; Pred. No. 1.8e-91;

Matches 389; Conservative 0; Mismatches 43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /product= "feline GM-CSF 3R4"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ABZ80827 standard; DNA; 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCAGCCCAGAAG 432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCAGCCCAGAAG 432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (revised)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 11-SEP-2003
27-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Felis catus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ABZ80827;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 4
ABZ80827
          88888888888888888
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          THE LEAK KAN KAN KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN LAKA KAN 
                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                         360
                                                                                                                                                       360
                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                      420
                                      encoding ovine cytokine(s) - used to prepare recombinant cytokine(s) treatment of immuno-depression in sheep.
                                                                                                         TACAAGCAGCACTGCCCCCCCCCCCCCGGAAACTTCCTGTGCAACCCAGATGATCACCTTC
                                                                                                                                  TACAAGCAGCACTGCCCCCCCCCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTC
                                                                                                                                                                                                        AAAAGTTTCAAAAAAAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG
                                                                                                                                                                                                                                                    AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Granulocyte-macrophage colony-stimulating factor; immuno-depression; vaccine adjuvants; cytokine; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The sequence is that of the ovine granulocyte-macrophage colony stimulating factor (GM-CSF) gene which can be used in the prodn.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            *tag= a
note= "putative signal sequence"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               '*tag= d
'note= "GM-N PCR primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /*tag= e
/note= "GM-C PCR primer"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /more= 52. .432
/*tag= b
/note= "mature protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RES ORG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /*tag= c
/note= "ovine GM-CSF"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAQ24294 standard; DNA; 432 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (CSIR ) COMMONWEALTH SCI & IND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Seow HF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Claim 2; Fig 3; 79pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        90AU-00002294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    90AU-00002294.
                                                                                                                                                                                                                                                                                                  CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                     ccaecccagaacraa 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (revised)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     408. .432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1. .432
/*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                . .51
*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .. .25
*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Wood PR, Rothel JS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1992-150483/18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ovine GM-CSF gene.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          P-PSDB; AAR23662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       13-SEP-1990;
21-MAR-1991;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     misc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        13-SEP-1990;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             25-MAR-2003
27-OCT-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WO9205255-A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       02-APR-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sig_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mat_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ovis aries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAQ24294;
                                                        241
                                                                                                         301
                                                                                                                                                       301
                                                                                                                                                                                                     361
                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAQ24294
                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT
```

```
allergies, tumours, inflammation and graft rejection, and to increase the response from a co-administered antigen. The nucleotide sequences can also be used for the recombinant production of a protein, while nucleotide fragments are useful as probes, as amplification primers and as sources of inhibitory therapeutics (e.g., antisense oligonucleotides). The proteins may be used to raise antibodies and to screen for modulators of activity, while the antibodies may be used in detection, and in drug
Sequences AA255575-25580 represent cDNA sequences encoding feline granulocyte macrophage colony-stimulating factor (GMCSF). The invention relates to canine interleukin-4 (IL-4), canine or feline Flt-3 ligand, canine or feline CD154 (CD40 ligand), canine IL-5, canine IL-13, feline interferon-alpha (IRV-alpha) and feline GMCSF, and nucleotides which encode these immunoxegulatory proteins. The proteins, their associated nucleic acids, specific antibodies and inhibitors may be used as vaccines for therapeutic or prophylactic regulation of an immune response in animals (particularly cate, dogs, horses and humans). They may be used to treat autoimmune or infectious diseases including
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Granulocyte macrophage colony-stimulating factor; GMCSF; antibody; feline; inhibitor; immune response; immunoregulation; tumour; cancer; autoimmune disease; vaccine; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Nucleic acids encoding immunoregulatory proteins from cats or dogs, useful for treating or preventing e.g. tumors or autoimmune disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 444;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 332.6; DB 3; Length Pred. No. 7e-83; 0; Mismatches 64; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 444 BP; 119 A; 127 C; 104 G; 94 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Yang S, Dreitz MJ, Wonderling RS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /product= "Feline GMCSF"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Claim 1k; Page 251-252; 264pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                     BP.
                                                                                                                                                                                                                                                                                                                                         AAZ55575 standard; cDNA; 444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           76.5%;
85.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       99WO-US011942.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    98US-0087306P.
                                                                                                           435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 76.5
Best Local Similarity 85.3
Matches 371; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               10. .444
/*tag= a
                                                                                                        421 CCAGCCCAGAAGTAA
                                                                                                                                                                    421 CCAGTCAAGAAGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 2000-072623/06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (HESK-) HESKA CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Feline GMCSF cDNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P-PSDB; AAY58229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WO9961618-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       28-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       29-MAY-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     14-MAR-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Felis catus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       02-DEC-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sim G,
                                                                                                                                                                                                                                                                                                          AAZ55575
                                                                                                                                                                                                                                                                         RESULT
                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The invention relates to a novel DNA vaccine against pathogens that
affect pets and sports animals comprises a plasmid containing a sequence,
expressible in vivo, that encodes an immunogen from the relevant pathogen
and a cationic lipid containing a quaternary ammonium salt, particularly
N-(2-hydroxyethyl)-N,N-dimethyl-2,3-bis(tetradecyloxy)-1-propanammonium
CDNRIE). The immunogens are particularly taken from canine distemper
virus (CDV), canine parainfluenza virus type 2 (CPL-2), canine herpes
virus (CHV), feline herpes virus type 1 (FHV-1), equine herpes virus type
1 (EHV-1), and EHV type 4 (EHV-4). The method may also include the use of
a immunogenic stimulation factor especially a granulocyte-macrophage
colony stimulation factor (GM-CSF) to enhance the immunogenic response.
The vaccines, which may be multivalent, are particularly used to protect
dogs, cats and horses against bacterial and viral diseases, particularly
those caused by the Paramyxoviridae. Formulations with the quaternary
ammonium salt provide a better immune response and thus more efficient
protection, particularly when administered subcutaneously. This sequence
represents the gene encoding a feline GM-CSF used in the invention.
(Updated on 11-SEP-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               rcrigadar cririca cerea de de ceda de decendo de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CAGGGCCTACGGGGCAGCCTCATCAGCCTCAAGGAGCCTCTGAGGATGATGGCCAACCAT 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TACAAGCAGCACTGCCCCCTTACTCCGGAAACGCCCTGTGAAACCCAGACTATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DNA vaccine containing plasmid and cationic lipid containing guaternary ammonium salt, useful for protecting pets and sports animals against, e.g. herpus virus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AGTTCACCCAGCTCTGTCACTCGCCCTGGCAACACGTGGATGCCATCAAGGAGGCTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TACAAGCAGCACTGCCCCCCCCCCCCGGAAACTTCCTGTGCAACCCCAGATGATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 332.6; DB 4; Length 435;
Pred. No. 7e-83;
0; Mismatches 64; Indels 0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 435 BP; 116 A; 121 C; 102 G; 96 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                        Audonnet JF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Example 9; Fig 24; 109pp; French.
                                                                                                                                                                                                                                                                                                                                                                                                        Fischer LJ, Barzu-Le Roux S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 76.5%;
                                                                                                                                                                              08-JUN-2000; 2000WO-FR001592.
                                                                                                                                                                                                                                           99FR-00007604
99US-0144490P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 371; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WPI: 2001-071259/08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          P-PSDB; ABP98710
                                               WO200077043-A2
                                                                                                                                                                                                                                                                                                                                            (MERI-) MERIAL
                                                                                                                                                                                                                                              10-JUN-1999;
                                                                                                                                                                                                                                                                            19-JUL-1999;
                                                                                                              21-DEC-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Н
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
```

유

8

셤

ઠે d ò

à

g

g ઠે a ò

ò

ö

ហ

```
Claim 1k; Page 253; 264pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            멾.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAQ64864 standard; DNA; 798
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCAGACCAGAAGTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (revised)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  25-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    07-NOV-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     10-MAR-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CHEF-2 gene
                                                                                                                                                                                                                                                                                                                                       targetting
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAQ64864;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ద
                                                                                     120
                                                                                                                  70 AGTICACCCAGCICITGICACTCGGCCTGGCAACACGTGGATGCCATCAAGGAGGCCCTG 129
                                                                                                                                                         240
                                                                                                                                                                                                                                                               190 TCTGAAATGTTTGACCCTGAGGAGCCGAAATGCCTGCAGACTCACCTAAAGCTGTACGAG 249
                                                                                                                                                                                                                                                                                                  TACAAGCAGCACTGCCCCCCCCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                             AAAAGTITICAAAAAGAACCIGAAGGAITITICIGIITIGAGAICCCGIITIGACTGCIGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAAAATTTCAAAGAGAATCTGAAGGATTTTCTGTTTAACAACCCCTTTGACTGCTGGGGA 429
                9
                                                  69
                                                                                   CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGGATGCCATGCAAGGAGGCCCTG
                                                                                                                                                                                                                              TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA
                                        Granulocyte macrophage colony-stimulating factor; GMCSF; antibody; feline; inhibitor; immune response; immunoregulation; tumour; cancer; autoimmune disease; vaccine; 8s.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nucleic acids encoding immunoregulatory proteins from cats or dogs, useful for treating or preventing e.g. tumors or autoimmune disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Wonderling RS;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /*tag= a
/product= "Feline GMCSF"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
complement(1. .435)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCAGACCAGAAGTAA 444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AAZ55576 standard; cDNA; 444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Feline GMCSF cDNA complement
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           98US-0087306P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        99WO-US011942
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Yang S, Dreitz MJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  14-MAR-2000 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WPI; 2000-072623/06
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (HESK-) HESKA CORP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P-PSDB; AAY58229.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           29-MAY-1998;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      WO9961618-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28-MAY-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               catus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       02-DEC-1999
                                                                                   61
                                                                                                                                                                                                                                                                                                                                    250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               370
                                                                                                                                                       121
                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AAZ55576;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  <u>ა</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Felis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAZSS576//
LID AAZSS
AC AAZSS
AC AAZSS
XX AAZSS
XX AAZSS
XX AAZSS
XX Belin
KW Felin
KW Felin
KW Felin
KW Gran
KW W Gran
KW W Gran
KW W W Gran
KW W W Gran

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT
                                          ద
                                                                                   ઠે
                                                                                                           g
                                                                                                                                                    ò
                                                                                                                                                                                   a
                                                                                                                                                                                                                          õ
                                                                                                                                                                                                                                                          q
                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                            ઠે
                                                                                                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                à
```

```
Sequences AAZ55575-Z5580 represent cDNA sequences encoding feline granulocyte macrophage colony-stimulating factor (GMCSF). The invention relates to canine interleukin-4 (IL-4), canine or feline Flt-3 ligand, canine or feline colony, canine or feline colony, canine or feline colony, canine or feline colony in the colony canine IL-5, canine IL-13, feline interferon-alpha (IRN-alpha) and feline GMCSF, and nucleotides which encode these immunoregulatory proteins. The proteins, their associated nucleic acids, specific antibodies and inhibitors may be used as vaccines for therapeutic or prophylactic regulation of an immune cresponse in animals (particularly cats, dogs, horses and humans). They may be used to treat autoimmune or infectious diseases including allergies, tumours, inflammation and graft rejection, and to increase the response from a co-administered antigen. The nucleotide sequences can also be used for the recombinant production of a protein, while can encombinant production of a protein, while concept inhibitory threapeuties (e.g., antisense alignmucleotides). The proteins may be used to raise antibodies and to screen for modulators of activity, while the antibodies may be used in detection, and in drug
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        435 Argitácitácida Arcitácitar recreacida contracidade a profesiona de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contracidade de contrac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCTGAAATGTTTGACCCTGAGGAGCCGAAATGCCTGCAGACTCACCTAAAGCTGTACGAG 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                195 CAGGGCCTACGGGCAGCCTCATCAGCTCAAGGAGCCTCTGAGAATGATGGCCAACCAT 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TACAAGCAGCACTGCCCCCCCCCCCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          135 TACAAGCAGCACTGCCCCCTTACTCCGGAAACGCCCTGTGAAACCCAGACTATCACCTTC 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  375 AGTTCACCCAGCTCTGTCACTCGGCCCTGGCAACACGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 ATGTGGCTGCAGAACCTGCTTCTTGGGCACTGTGGTTTACAGCATGCCCGACCCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gapa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 444;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Cytokine; chimerism enhancing factors; porcine; transplant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 444 BP; 94 A; 104 C; 127 G; 119 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 76.5%; Score 332.6; DB Best Local Similarity 85.3%; Pred. No. 7e-83; Matches 371; Conservative 0; Mismatches 6
```

```
The present invention relates to a method of optimising a coding sequence for expression of a protein, based on the amino acid sequence of the protein. This involves the use of a computer to generate a test sequence with m optimisation positions determined for a defined region, in which positions the codon usage at varied. The optimum codon usage at such positions is determined by means of a power function. The steps are reiterated with different regions of the sequence, with the optimised codons previously identified being left unchanged during subsequent steps. The method can be used for expression of proteins. The present sequence is the human GM-CSF wild-type coding sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121 cercretatacergaeradadacacrecrecretatatatatatatatatatatatatatatatata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              cáctroccchácccchachachachtean 120
390 AAAAGTTTCAAAGACAGTCTGAACAAATTTČTTTTTACCATCCCCTTTGACTGCTGGGGG 449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Computer optimization of a nucleotide sequence for a protein comprises evaluating test sequences with a quality function to determine the optimum sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121 AGCCTTCTGAACAACAGTAGTGACACTGCTGCTATCATGAAATGAAACAGTAGAAGTCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ds; gene; human; GM-CSF; codon optimisation; protein production.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DB 12; Length 435;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           64; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 435 BP; 99 A; 140 C; 113 G; 83 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 331.6; DB 13
Pred. No. 1.3e-82;
0; Mismatches 64;
                                                                                                                                                                                                                                                                                                                                                                                                  Human GM-CSF wild-type coding sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Disclosure; SEQ ID NO 1; 83pp; German.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Wagner
                                                                                                                                                                                                                                          ADQ76022 standard; DNA; 435 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        23-DEC-2003; 2003WO-EP014850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          23-DEC-2002; 2002DE-01060805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       vuery Match
Best Local Similarity 85.3%;
Matches 370; Conservative
                                                       CCAGCCCAGAAGTAA 435
                                                                                                        CCAGTCAAAAAGTAA 464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ч,
                                                                                                                                                                                                                                                                                                                                                (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Notka
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (GENE-) GENEART GMBH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     WPI; 2004-543639/52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Graf M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               WO2004059556-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                   07-0CT-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    15-JUL-2004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                       421
                                                                                                        450
                                                                                                                                                                                                                                                                                               ADQ76022;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Raab D,
                                                                                                                                                                                                                       ADQ76022
                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                    ò
                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The sequence is that of a porcine cytokine gene designated chimerism enhancing factor (CHEF-2). The cytokine can be used for improving engrafment, stabilisation and proliferation of tissues, esp. Dane marrow cells, in xenogeneic transplantation. The cytokine may be used to prevent or treat various swine diseases, e.g. African swine fever, Hog cholera, Pseudorables, etc. See also AAQ64863-80. (Updated on 10-MAR-2003 to add missing OS field.) (Updated on 25-MAR-2003 to correct PN field.)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAAAGTTICAAAAAGAACCIGAAGGAITTICIGITIGAGAICCCGTIIGACIGCIGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TGTGAAATGTTTGACCCCCAGGAGCCGACATGCGTGCAGACTCGCCTGAACCTGTACAAG 269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TACAAGCAGCACCCCCCCCCCCCCCGGAACTTCCTGTGCAACCCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        얺
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      90 riecccacccaeccretracceseccrescascareresareccarcaaasaaccere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ArgregoriscadaAccrecrecresecacreresercrecacearcrecearcc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cassescriscessescricacrassescricas as a contrated cristical contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrated contrat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DNA - used
        kenogeneic cells; bone marrow; African swine fever; Hog cholera;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 2; Length 798;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RJ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 798 BP; 208 A; 215 C; 180 G; 195 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Porcine cytokine Chimerism Enhancing Factors (CHEFS) and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hawley
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           76.5%; Score 332.6; DB 2;
85.3%; Pred. No. 8.8e-83;
iive 0; Mismatches 64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Schacter BZ,
                                                                                                                                       ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Claim 40; Page 72; 113pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Monroy RL,
                                                                                                                                                                                           /*tag= a
/note= "signal"
100. .464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        92US-00967188.
                                                                                                                                                                                                                                                                                                                                                                                                                                   93WO-US010295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       xenograft tolerance.
                                                                                                                                                                                                                                             .464
I= b
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (BIOT-) BIOTRANSPLANT INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity 85.3
Matches 371; Conservative
                                                                                                                                                                                                                                                                              /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Rosa MD,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WPI; 1994-167114/20.
                                      Pseudorabies; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         P-PSDB; AAR54818
                                                                                                                                                                                                                                                                                                                                                                                                                                      26-OCT-1993;
                                                                                                                                                                                                                                                                                                                             WO9409803-A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        27-OCT-1992;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   08-OCT-1993;
                                                                                                                                                                                                                                                                                                                                                                                 11-MAY-1994
                                                                                                                                                                     sig peptide
                                                                                                                                                                                                                                                  mat_peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ponath PD,
                                                                                           Sus scrofa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       enhance
```

ö

9 9

g

유 ઠે g ò

ŝ

엄

ò

8 B ð g

ò

120

~

ò

```
WO200105934-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (MERI-) MERIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15-MAY-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Felis catus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  25-JAN-2001
                                                                                                                                                                                                                                                                                                                                                                                       421 (
                                                                                                                                   61
                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAF55040;
                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAF55040
ខ្លួន្តមូន
                                                                                                             셤
                                                                                                                                                     셤
                                                                                                                                                                           ò
                                                                                                                                                                                                요
                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                         요
                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ଚ
                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      This invention describes a novel process for modifying nucleic acid for a vectored expression modulation by targeted insertion or removal of CpG dinucleotides. The invention also describes modified nucleic acids and vector expressions. The process commences with the expression from tissue of a sample substance containing the target nucleic acid sequence, followed by its modification to increase or decrease the genetic expression of CpG di-nucleotides present, by degeneration of the genetic modified number of CpG di-nucleotides in a suitable vector expression, operationally linked with a sultable transcription regulatory sequence. The modified target nucleic acid sequence is then expressed in a modified expression system. The novel process can be used to modified a modified for incorporation in a vectored expression in e.g. transgenic animals, medical therapy or vaccines. The process extends the usable range of
                                                                                                               420
         300
                            300
                                                 TACAAGCAGCACTGCCCCCCCCCCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                    TACAAGCAGCACTGCCCTCCAACCCCGGAAACTTCCTGTGCAACCCAGATTATCACCTTT 360
                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Process to modify nucleic acid for incorporation in a vectored expression in e.g. transgenic animals, medical therapy or vaccines.
                      AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG
                                                                                                              361 GAAAGTTTCAAAGAGAACCTGAAGGACTTTCTGCTTGTCATCCCCTTTGACTGCTGGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ä
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Raab
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Wagner R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Example 3; SEQ ID NO 23; 99pp; German.
                                                                                                                                                                                                                                                                                           gene; vector; expression; GM-CSF
                                                                                                                                                                                                                                                                                                                                      Location/Qualifiers
                                                                                                                                                                                                                                                                        Human GM-CSF wild-type (10CpG) DNA.
                                                                                                                                                                                                                                                                                                                                                          /*tag= a
/product= "GM-CSF"
                                                                                                                                                                                                          AEF81846 standard; DNA; 435 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                  03-AUG-2005; 2005WO-EP008423
                                                                                                                                                                                                                                                                                                                                                                                                                                                    03-AUG-2004; 2004DE-10037611.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Leikam D,
                                                                                                                                               CCAGTCCAGGAGTA 434
                                                                                                                                 CCAGCCCAGAAGTA 434
                                                                                                                                                                                                                                                   (first entry)
                                                                                                                                                                                                                                                                                                                                                 .435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (GENE-) GENEART GMBH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 2006-193389/20.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Graf M,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       P-PSDB; AEF81847.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENBANK; M11220.
                                                                                                                                                                                                                                                                                                                                                                                        WO2006015789-A2
                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                   20-APR-2006
                                                                                                                                                                                                                                                                                                                                                                                                             16-FEB-2006.
                            241
                                                                    301
                                                                                          361
         241
                                                 301
                                                                                                                                                      421
                                                                                                                                                                                                                               AEF81846;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Notka F,
                                                                                                                                   421
                                                                                                                                                                                               RESULT 9
                                                                g
                                                                                                             셤
                                                                                                                                                   Db
         ò
                          g
                                                 ò
                                                                                        ò
                                                                                                                                 ò
```

```
300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                               120
                                                                                                                                                                                                                                                                                                                                        61 CGCTCGCCCAGCCCCAGCACGCACCCTGGGAGCATGTGAATGCCATCCAGGAGGCCCGG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                       121 CGTCTCCTGAACCTGAGAAGACACTGCTGCTGAGATGAAATGAAACAGTAGAAGTCATC 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301 TACAAGCACCACCCCCCCCCCCCCCCGGAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301 TACAAGCAGCACTGCCCTCCAACCCCGGAACTTCCTGTGCAACCCCAGATTATCACCTTT 360
                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 Argrecerecadadecerecerecerecedences
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG
                                                                                                                                                                                                                                                                                                               CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                 0; Gaps
genetic expression. This sequence encodes human wild-type GM-CSF containing 10CpG, used in the process of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Capsid protein; FCV strain 431; FCV strain G1; vaccine; cat; ds.
                                                                                                                       435;
                                                                                                                  DB 15; Length
                                                                                                                Query Match 76.2%; Score 331.6; DB 15; Length Best Local Similarity 85.3%; Pred. No. 1.3e-82; Matches 370; Conservative 0; Mismatches 64; Indels
                                                                     Sequence 435 BP; 99 A; 140 C; 113 G; 83 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Nucleotide sequence of GM-CSF gene clore 3R4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Audonnet JF, Baudu PGN, Brunet SC;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "GM-CSF"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ВР
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         13-JUL-2000; 2000WO-FR002051
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      16-JUL-1999; 99FR-00009421.
11-FEB-2000; 2000FR-00001761.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAF55040 standard; DNA; 432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CCAGCCCAGAAGTA 434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ccagrccaggagra 434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /rtag= a
/product= '
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1. .432
/*tag=
```

```
WO9844788-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                       Chang L;
셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                     The present sequence encodes a cat GW-CSF protein. The specification describes the capsid proteins of feline calcivirus (FCV) strain 431 and strain G1. Capsid proteins, derived from the FCV strains G1 and 431, induce antibodies that neutralize a wide variety of strains from different parts of the world. Vectors containing capsid encoding sequences are used as immunogenic compositions or vaccines for protection of cats against feline calcivirus, including use in multivalent vaccines
                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                      120
                                                                                                                                                                                                                                                                                                                                           180
                                                                                                                                                                                                                                                                                                                                                               180
                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                              300
                                                                                                                                                                                                                                                                                                                                                                                                                                                cadedecracedededecrearcacercaagaageercreaagaardargaecaacear 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mouse; immunodeficient; pathogen; tumour; lymphocyte; antigen; immunomodulator; vector; vaccine; cancer; HIV; Leishmania; Mycobacterium; Listeria; Plasmodium; retrovirus; evaluation; human immunodeficiency virus; ds.
                                                                                                                                                                                                                                                                                                                                                                                                          TCTGAAATGTTTGACCCTGAGGAGCCGAAATGCCTGCAGACTCACCTAAAGCTGTACGAG 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                    TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                               TACAAGCAGCACCCCCCCCCCCCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TACAAGCAGCACTGCCCCCTTACTCCGGAAACGCCCTGTGAAACCCCAGACTATCACCTTC
                                                                                                                                                                                                                                                        CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                     61 AGTTCACCCAGCTCTGTCACTCGGCCCTGGCAACACGTGGATGCCATCAAGGAGGCTCTG
                                                                                                                                                                                                                                                                                                                                           New DNA encoding capsid protein of feline calcivirus, useful for producing vaccines that protect against many different strains of the virus.
                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Granulocyte macrophage colony stimulating factor (GM-CSF) gene
                                                                                                                                                                                                             76.1%; Score 331.2; DB 4; Length 432; 85.4%; Pred. No. 1.7e-82; Live 0; Mismatches 63; Indels 0;
                                                                                                                                                                                          Sequence 432 BP; 115 A; 121 C; 101 G; 95 T; 0 U; 0 Other;
                                                                                   Example 10; Fig 8; 62pp; French
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ВР
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AAV83189 standard; DNA; 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            02-MAR-1999 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCAGCCCAGAAG 432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCAGTCAAGAAG 432
                                                                                                                                                                                                                                    Matches 369; Conservative
           WPI; 2001-159521/16.
P-PSDB; AAB67464.
                                                                                                                                                                                                                          Local Similarity
                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361
                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                 à
                                                                                                                                                                                                                                                                                                                 유
                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δ
```

Homo sapiene

```
thuman pathogens and/or their components or human tumour cells and human peripheral blood lymphocytes. Also claimed is a vaccine comprising a cell modified to express an antigen and an immune-modulating protein, this is preferably an expression vector comprising a polymucleotide sequence that encodes the antigen and immune-modulating protein. Such vectors can be used to treat a subject having a tumour by transferring the expression vector into the tumour so that the antigen and the immune-modulator are expressed by at least the tumour. The methods can be used for producing and evaluating vaccines including cancer vaccines and vaccines directed against human pathogens, e.g. HIV, Leishmania, Mycobacterium, Listeria or Plasmodium. This sequence is an intermediate retroviral vector derived from pluM.6, a vector approved for clinical use in the United States. pluic is essentially plub6 digested with Claim and BclI to remove cloning sites and the pluM.6 internal Synce gene. These were replaced with a polylinker.

A neo gene was then inserted under the transcriptional control of the Sy40 enhancer/promoter to create the vector plaSN. Two primers (AAV83185, AAV83186) were used to amplify the granulocyte macrophage colony
stimulating factor (GM-CSF) gene (AAV83189) for its insertion into pLSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TACAAGCAGCACTGCCCCCCCCACCCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Immunodeficient mice comprising human cells can be used for exposure to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Use of immunodeficient mice comprising human cells - particularly SCTD/beige mice comprising human immune cells for evaluating vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCTCGCCCAGCCCCCAGCAGCCCTGGGAGCATGTGAATGCCATCCAGGAGGCCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       rcagaaargringaccrccaggagccgaccrgccracagacccgccrgaagcrgracaag
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ArierisecriécAsAscersersersererrisescaertersescersecAscerecesses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 435;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       76.1%; Score 331; DB 2; Length 43 ilarity 85.1%; Pred. No. 2e-82; Conservative 0; Mismatches 65; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 435 BP; 99 A; 140 C; 113 G; 83 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             against cancers or human pathogens, e.g. HIV.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Example 1b; Page 103-104; 154pp; English.
                                                                                                                                     97US-00838702.
97US-00848760.
97US-0069163P.
                                                                  98WO-US006944.
                                                                                                                                                                                                                                                                                                                                                                                                                                WPI; 1999-024005/02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity
Matches 370; Conserv
                                                                                                                                                                                                                                                                                      (CHAN/) CHANG
                                                                  09-APR-1998;
                                                                                                                                                                           01-MAY-1997;
09-DEC-1997;
                                                                                                                                             09-APR-1997;
15-0CT-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
```

ö

```
The invention relates to a novel DNA vaccine against pathogens that affect pets and sports animals comprises a plasmid containing a sequence, expressible in vivo, that encodes an immunogen from the relevant pathogen and a cationic lipid containing a quaternary ammonium salt, particularly
DNA vaccine containing plasmid and cationic lipid containing quaternary ammonium salt, useful for protecting pets and sports animals against, e.g. herpes virus.
                                                                                                       361 GAAAGTITCAAAGAGAACCTGAAGGACTTTCTGCTTGTCATCCCCTTTGACTGCTGGGAG
                                                        181 TCAGAAATGTTTGACCTCCAGGAGCCGACCTGCCTACAGACCCGCCTGGAGCTGTACAAG
                                                                                                                                                               301 TACAAGCAGCACTGCCCTCCAACCCCGGAAACTTCCTGTGCAACCCAGATTATCACCCTTT
                                                                                                                                                                                                       361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Granulocyte-macrophage colony stimulating factor; GM-CSF; ds; gene; antibacterial; antiviral; vaccine; animal; immunogen; DMRIE; cationic lipple; quaternary ammonium salt; canine distemper virus; canine parainfluenza virus; canine herpes virus; feline herpes virus; equine herpes virus; horse.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Feline granulocyte-macrophage colony stimulating factor gene 3R3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "feline GM-CSF 3R3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Audonnet JF;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Example 9; Fig 22; 109pp; French.
                                                                                                                                                                                                                                                                                                                                                                       BP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Barzu-Le Roux S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      99FR-00007604.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            08-JUN-2000; 2000WO-FR001592.
                                                                                                                                                                                                                                                               CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                      CCAGTCCAGGAGTGA 435
                                                                                                                                                                                                                                                                                                                                                                      ABZ80826 standard; DNA; 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /*tag= a
/product=
                                                                                                                                                                                                                                                                                                                                                                                                                               (revised)
(first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /*tag=
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WPI; 2001-071259/08
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            P-PSDB; ABP98709
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   WO200077043-A2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (MERI-) MERIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10-JUN-1999;
                                                                                                                                                                                                                                                                                                                                                                                                                               11-SEP-2003
27-JUN-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Fischer LJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               catus.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21-DEC-2000
                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                  ABZ80826;
                             181
                                                                                      241
                                                                                                                                               301
                                                                                                                                                                                                                                                                                              421
                           ò
                                                     g
                                                                                   ò
                                                                                                           g
                                                                                                                                             à
                                                                                                                                                                      요
                                                                                                                                                                                                   Š
                                                                                                                                                                                                                               ద
                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                  The specification describes an expression cassette which is useful for the secretion of a heterologous protein from insect cells. The protein is expressed as a fusion protein, and is encoded by a polymucleotide comprising, in the 5. 0.3 'direction, a promoter, a signal peptide, an insect secretion competent polypeptide which is not an immunoglobulin For region and a heterologous protein with the coding sequences linked in frame. The expression cassette and vector are used for the production of heterologous peptides and proteins in insect and mammalian cell. The present sequence encodes a human granulocyte macrophage colony stimulating factor (GMCSF) (a secretion component). It is used to
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 120
361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGCTGAAG 420
               361 GAAAGTTTCAAAGAGAACCTGAAGGACTTTCTGCTTGTCATCCCCTTTGACTGCTGGGGG 420
                                                                                                                                                                                                                                                                           Expression cassette; insect cell; insect secretion competent polypeptide; fusion protein; protein production; granulocyte macrophage colony stimulating factor; GMCSF; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CGCTCGCCCAGCCCCAGCACGCAGCCCTGGGAGCATGTGAATGCCATCCAGGAGGCCCGG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Expression cassette contains a promoter, signal peptide, secretion competent polypeptide and heterologous protein for production and secretion of heterologous peptides from eukaryotic cells.
                                                                                                                                                                                                                                                   DNA sequence of granulocyte macrophage colony stimulating factor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 331; DB 3; Length 435; Pred. No. 2e-82;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           65; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 435 BP; 99 A; 140 C; 113 G; 83 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      construct expression cassettes of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (UYTE-) UNIV TECHNOLOGIES INT INC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Behie LA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Example 5; Fig 6; 55pp; English.
                                                                                                                                                              ВЪ.
                                                        CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                             23-FEB-2000; 2000WO-CA000188.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               76.1%;
85.1%;
                                                                                 ccaerccaecaerca 435
                                                                                                                                                            AAA64392 standard; DNA; 435
                                                                                                                                                                                                                     (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches 370; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Iatrou K, Farrell PJ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 2000-524624/47.
                                                                                                                                                                                                                                                                                                                                                                      WO200050616-A2
                                                                                                                                                                                                                                                                                                                                          Homo sapiens
                                                                                                                                                                                                                     20-DEC-2000
                                                                                                                                                                                                                                                                                                                                                                                                  31-AUG-2000.
                                                        421
                                                                                   421
                                                                                                                                                                                        AAA64392;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                              ద
                                                       ò
                                                                                   요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δ
```

```
N-(2-hydroxyethyl)-N,N-dimethyl-2,3-bis(tetradecyloxy)-1-propanamonium (DWRIE). The immunogens are particularly taken from canine distemper virus (CPV), canine parainfluenza virus type 2 (CPI-2), canine herpes virus (CHV), feline herpes virus type 1 (FHV-1), equine herpes virus type 2 (CPI-2), canine herpes virus (CHV), feline herpes virus type 2 (CPI-2), canine herpes virus type 1 (EHV-1), and EHV type 4 (EHV-4). The method may also include the use of a immunogenic stimulation factor especially a granulocyte-macrophage colony stimulation factor (GM-CSF) to enhance the immunogenic response. The vaccines, which may be multivalent, are particularly used to protect dogs, cate and horses against bacterial and viral diseases, particularly ammonium salt provide a better immune response and thus more efficient protection, particularly when administered subcutaneously. This sequence (Updated on 11-SEP-2003 to standardise OS field)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCTGAAATGTTTGACCCTGAGGAGCCGAAATGCCTGCAGACTCACCTAAAGCTGTACGAG 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241 caccicracecececercarcaccicarcaecercaesesecercicaearicarescen 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TACAAGCACTGCCCCCCCCCCCCGGAAACTTCCTGTGCAACCCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Peptide remodeling, glycoconjugation, glycosyltransferase, glycan,
granulocyte-macrophage colony stimulating factor; GM-CSF; human; gene;
ds.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   76.1%; Score 331; DB 4; Length 435; 85.1%; Pred. No. 2e-82;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 435 BP; 117 A; 120 C; 101 G; 97 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 65; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACC78877 standard; DNA; 435 BP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCAGTCAAGAAGTGA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human GM-CSF encoding DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Matches 370; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  02-SEP-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ACC78877;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 14
ACC78877
ID ACC78
XX
AC ACC78
DT 02-SE
XX
XX
XX
XX
XX
XX
XX
XW
PEPTI
XW
GS
CO
XX
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
XX
CO
             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
```

```
The invention relates to a cell-free, in vitro method of remodeling a peptide. The method involves removing a saccharyl subunit from the peptide. Thus forming a truncated glycan, and contacting the truncated glycan, thus forming a truncated glycan, and contacting the truncated glycan, thus remodeling the peptide. Conjugates can be to the truncated glycan, thus remodeling the peptide. Conjugates can be formed between a granulocyte colony stimulating factor (G-CSF) peptide, interferon alpha peptide, interferon beta peptide, Factor VIIa peptide, interferon alpha peptide, alpha-l-protease inhibitor (A-1-FI) peptide, petide, granulocyte macrophage colony stimulating factor (G-CSF) peptide, alpha-l-protease inhibitor (A-1-FI) peptide, interferon-gamma peptide, alpha-l-protease inhibitor (TPA) peptide, interferon-gamma peptide, alpha-l-protease inhibitor (TPA) peptide, interferon-gamma peptide, pactor VIII peptide, anti-CSF) peptide, interferon-gamma peptide, alpha-l-protease inhibitor (TPA) peptide, interferon-gamma pentide, anti-complian (IG) G fusion peptide, urokinase peptide, anti-cglycoptotein IIb/IIIa monoclonal antibody peptide, chimetric anti-TREC antibody peptide, hepatide, recombinant DMase peptide, anti-TRF alpha peptide, insulin peptide, hepatide, and a modifying group, where the modifying group is covalently attached to the peptide through an intact glycosyl linking group. The method is useful for a cell-free, in vitro method of remodeling DNA annan GM-CSF encoding DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                   Remodeling a peptide, by removing a saccharyl subunit from the peptide to form truncated glycan, and adding or deleting glycosyl groups to a peptide and/or adding modifying group of a peptide to remodel the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 76.1%; Score 331; DB 10; Length 435;
                                                                                                                                                                                                                                                                                                                                                    Chen X;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 435 BP; 99 A; 140 C; 113 G; 83 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                    Hakes D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred. No. 2e-82;
0; Mismatches 65;
                                                                                                                                                                                                                                                                                                                                                    Bowe C,
/product= "GM-CSF"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Example; Fig 59A; 900pp; English.
                                                                                                                                                                                                                                                                                                                                                    Bayer R,
                                                                                                                                                                                                                                                                                                                 (NEOS-) NEOSE TECHNOLOGIES INC
                                                                                                                                                      2001US-0344692P.
2001US-0334233P.
2001US-0334301P.
                                                                                                                                                                                                          2002US-0387292P
                                                                                                                                                                                                                            2002US-0391777P
                                                                                                                                                                                                                                           2002US-0396594P
                                                                                                                                                                                                                                                               2002US-0404249P
                                                                                                                                                                                                                                                                             2002US-0407527P
                                                                                                     2002WO-US032263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Local Similarity 85.1%;
Matches 370; Conservative
                                                                                                                                                                                                                                                                                                                                                  Zopf D,
                                                                                                                                                                                                                                                                                                                                                                                    2003-449162/42.
                                                                                                                                                                                                                                                                                                                                                                                                     P-PSDB; ABR55847
                                    WO2003031464-A2
                                                                                                                                                      19-OCT-2001; 28-NOV-2001; 28-NOV-2001;
                                                                                                     09-OCT-2002;
                                                                                                                                                                                                                                                                               28-AUG-2002;
                                                                                                                                       10-OCT-2001;
                                                                                                                                                                                                        07-JUN-2002;
                                                                                                                                                                                                                            25-JUN-2002;
                                                                                                                                                                                                                                                               L6-AUG-2002;
                                                                                                                                                                                                                                             17-JUL-2002;
                                                                                                                                                                                                                                                                                                                                                    De Frees S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          peptide
 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
```

ö

Location/Qualifiers

Homo sapiens.

1. .435 /\*tag=

```
This invention relates to novel erythropoietin (EPO) peptides and the remodelling and glycoconjugation of these naturally occurring peptides thereof. Specifically, each EPO peptide comprises one or more glycans and has a glycoconjugate molecule such as polyethylene glycol (PEG) attached to it. Accordingly, the present invention provides glycoPEGylated EPO peptides that have either monoantennary, biantennary or triantennary glycans covalently attached thereto. As such, these peptides are useful for the treatment of anaemia, and hence exhibit antianaemic activities working to increase haematocrit levels in mammals, in particular in
                                                        240
                                                                                                                                                                            300
   240
                                                                                                                 300
                                                                                                                                                                                                                                        TACAAGCACACTGCCCCCCCCCCGGAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                           TACAAGCAGCACTGCCCTCCAACCCGGAAACTTCCTGTGCAACCCAGATTATCACCTTT 360
                                                                                                                                                                                                                                                                                                                                                             420
                                                                                                                                                                                                                                                                                                                                                                                         361 GAAAGTTTCAAAGAGACTGAAGGACTTTTCTGCTTGTCATCCCCTTTGACTGCTGGGGG 420
   TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA
                                               TCAGAAATGTTTGACCTCCAGGAGCCGACTGCCTACAGACCCGCCTGGAGCTGTACAAG
                                                                                                                 caddecracededecreercaceaecreadedececerreacardardeceaeceae
                                                                                                                                                                                                                                                                                                                                                                AAAAGTTTCAAAAAGAACCTGAAGGATTTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      human; gene; ds; erythropoietin; EPO; glycoconjugation;
glycoPEGylated EPO peptide; anaemia; antianaemic; haematocrit level;
kidney dialysis; haematology;
granulocyte-macrophage colony stimulating factor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Human granulocyte-macrophage colony stimulating factor DNA SeqID 17.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         or more glycans, having
to peptide, useful for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ×
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Chen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hakes D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Novel erythropoietin peptide comprising one glycoconjugate molecule covalently attached
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; SEQ ID NO 17; 1018pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Bowe C,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        glycoconjugate molecule covalently attacl
treating anemia in mammal such as human.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ВР
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bayer R,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (NEOS-) NEOSE TECHNOLOGIES INC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     05-NOV-2002; 2002US-00281994.
06-JAN-2003; 2003US-00360770.
19-FEB-2003; 2003US-00560779.
09-APR-2003; 2003US-00410945.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    08-OCT-2003; 2003WO-US031974.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2002WO-US032263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ccagrccaggagraa 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADN49689 standard; DNA; 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15-JUL-2004 (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Zopf D,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WPI; 2004-399848/37.
P-PSDB; ADN49690.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WO2004033651-A2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            09-OCT-2002;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        De Frees S,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22-APR-2004
                                                        181
                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
181
                                                                                                                    241
                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                             361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADN49689
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 15

ADN4 9689

ID ADN4

XX ADN4

XX ADN4

XX DE Hume

XX DE HOM

XX DE HUME

XX DE HOM

                                                                                                                                                                D
                                                                                                                                                                                                                                                                                       ద
                                                                                                                                                                                                                                                                                                                                                                                                            g
ò
                                            셤
                                                                                                                 δ
                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            to
                                                                                                                                                                                                                                                                       CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                         61 CGCTCGCCCAGCCCCAGCACGCAGCCCTGGGAGCATGTGAATGCCATCCCAGGAGGCCCGG 120
                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCAGAAATGTTTGACCTCCAGGAGCCGACCTACAGACCCGCCTGGAGCTGTACAAG 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TACAAGCAGCACTGCCCCCCCCCCTGGAAACTTCCTGTGCAACCCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361 GAAAGTTTCAAAGAGAACCTGAAGGACTTTCTGCTTGTCATCCCCTTTGACTGCTGGGGG 420
                                                                                                                                                                                                                                  9
humans i.e. increasing the relative volume of blood occupied by erythrocytes. Furthermore, EPO therapy can be used to treat kidney dialysis patients. This polynucleotide is a human DNA sequence related the field of haematology, given in an exemplification of the invention.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121 cércrecrigaacereagradadacaérecrecrisorgaricaardaaacagradadreare
                                                                                                                                                                                                 1 ATGTGCTGCAGAGCCTGCTGCTCTTGGGCACTGTGGCCTGCAGCATCTCTGCACCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                  TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                          AGCCTTCTGAACAACAGTAGTGACACTGCTGTATCATGAAACAGTAGAAGTCGTC
                                                                                                                                                               Gaps
                                                                                                                                                                 ..
                                                                                                                        Query Match 76.1%; Score 331; DB 12; Length 435; Best Local Similarity 85.1%; Pred. No. 2e-82; Matches 370; Conservative 0; Mismatches 65; Indels
                                                                                         Sequence 435 BP; 99 A; 140 C; 113 G; 83 T; 0 U; 0 Other;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       completed: May 26, 2006, 00:41:08
he : 451 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Search cor
Job time
     8\times8\times8\times8
                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
```

BEST AVAILABLE COPY

.3

```
76.1%;
85.1%;
TYPE: DNA
ORGANISM: Homo sapiens
US-11-183-218-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
  US-11-183-218-17
00000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 17, Appl
Sequence 396, App
Sequence 61, Appl
Sequence 113, App
Sequence 1196, Ap
Sequence 1692, Ap
Sequence 1541, Ap
Sequence 1541, Ap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             17, App
9, Appl
0, Appl
0, Appl
7, Appl
Appli
Appli
Appli
Appli
Appli
Appli
Appli
2, Appli
3, Appli
                                                                                                                                                                    May 26, 2006, 01:26:24; Search time 132 Seconds (without alignments) 372.005 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Published Applications NA New:*

EMC Celerra SIDS3/ptodata/2/pubpna/US09 NEW PUB.seq:*

FMC Celerra SIDS3/ptodata/2/pubpna/US06_NEW_PUB.seq:*

FMC Celerra SIDS3/ptodata/2/pubpna/US08_NEW_PUB.seq:*

FMC Celerra SIDS3/ptodata/2/pubpna/US08_NEW_PUB.seq:*

FMC Celerra SIDS3/ptodata/2/pubpna/US08_NEW_PUB.seq:*

FMC Celerra SIDS3/ptodata/2/pubpna/US10_NEW_PUB.seq:*

FMC Celerra SIDS3/ptodata/2/pubpna/US10_NEW_PUB.seq:*

FMC Celerra SIDS3/ptodata/2/pubpna/US11_NEW_PUB.seq:*

FMC Celerra SIDS3/ptodata/2/pubpna/US10_NEW_PUB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 462, 7
Sequence 1765,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 1
Sequence 2
Sequence 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence Sequence
                                                                                                                                                                                                                                                                                                        435
1 atgtggctgcagaacctgct......ggaagccagccagaagtaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
                          GenCore version 5.1.8 (c) 1993 - 2006 Biocceleration Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-11-183-218-17

US-10-511-937-396

US-10-511-937-396

US-10-468-193-113

US-11-293-697-11562

US-11-293-697-11592

US-11-293-697-11592

US-10-293-697-11592

US-10-293-697-11592

US-10-293-697-11592

US-10-484-331-20

US-10-485-397-9

US-10-485-397-9

US-10-485-397-9

US-10-485-397-9

US-10-486-331-28

US-10-486-331-28

US-10-484-331-28

US-09-484-331-28

US-09-484-331-28

US-09-484-331-28

US-10-505-928-462

US-10-505-928-462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  242596 seqs, 56442199 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                            nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                    IDENTITY NUC Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                   US-10-614-481-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query
Match Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2243
2562
2062
2062
1628
4611
5244
5244
7524
7943
7943
9737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1973
3972
                                                Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                         Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   \begin{array}{c} \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{u} \, \mathbf{
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score
                                                                                                                            OM nucleic
                                                                                                                                                                                                                                                                                                                                   Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Database
                                                                                                                                                                            Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Résult
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
```

```
2799, Ap
28960, A
25300, A
2, Appli
8124, Ap
                                                                                                                                                                                                                                                                 98,
118,
57,
                                                                                                                                                Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
Seq
                                    Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
Sequence
                                    US-10-511-937-2799
US-10-953-349-28960
US-10-953-349-25300
US-10-981-760-2
                                                                                                                                                                     US-10-591-700-1
US-10-591-700-1
US-09-484-331-20
US-09-484-331-20
US-09-484-331-27
US-09-484-331-8
US-09-484-331-9
US-10-946-650-49
US-11-183-218-57
US-11-297-317-16
US-11-297-317-16
US-11-297-317-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-11-297-317-18
US-11-297-317-17
```

## ALIGNMENTS

```
PALM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 435;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              - See File Wrapper
US-LILES-LIVE 17, Application US/11183218

| Sequence 17, Application US/11183218
| Publication No. US2006008890641
| GENERAL INPORMATION:
| APPLICANT: Noose Technologies, Inc.
| APPLICANT: Sopf, David
| APPLICANT: Sopf, David
| APPLICANT: Bakes, David
| TITLE OF INVENTION: ERYTHROPOLETIN: REMOMELING AND
| TITLE OF INVENTION: ERYTHROPOLETIN: REMOMELING AND
| TITLE OF INVENTION: ERYTHROPOLETIN: REMOMELING DATE: 2003-04-09
| PRIOR FILING DATE: 2003-04-09
| PRIOR FILING DATE: 2003-04-09
| PRIOR FILING DATE: 2002-08-16
| PRIOR FILING DATE: 2002-08-16
| PRIOR FILING DATE: 2002-08-16
| PRIOR FILING DATE: 2002-06-16
| PRIOR FILING DATE: 2002-06-17
| PRIOR FILING DATE: 2002-06-17
| PRIOR FILING DATE: 2002-06-25
| PRIOR FILING DATE: 2001-11-28
| PRIOR FILING DATE: 2001-11-28
| PRIOR FILING DATE: 2001-11-28
| PRIOR FILING DATE: 2001-11-28
| PRIOR FILING DATE: 2001-11-28
| PRIOR FILING DATE: 2001-11-28
| PRIOR FILING DATE: 2001-11-28
| PRIOR FILING DATE: 2001-11-28
| PRIOR FILING DATE: 2001-11-28
| PRIOR FILING DATE: 2001-11-28
| PRIOR FILING DATE: 2001-11-28
| PRIOR FILING DATE: 2001-11-28
| PRIOR FILING DATE: 2001-11-28
| PRIOR FILING DATE: 2001-11-28
| PRIOR FILING DATE: 2001-11-28
| PRIOR FILING DATE: 2001-11-28
| PRIOR FILING DATE: 2001-11-28
| PRIOR FILING DATE: 2001-11-28
| PRIOR FILING DATE: 2001-11-28
| PRIOR FILING DATE: 2001-11-28
| PRIOR FILING DATE: 2001-11-28
| PRIOR FILING DATE: 2001-11-28
| PRIOR FILING DATE: 2001-11-28
| PRIOR FILING DATE: 2001-11-28
| PRIOR FILING DATE: 2001-11-28
| PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRIOR PRI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 331; DB 7;
Pred. No. 2.8e-85;
```

υ

```
33 ATGIGGCIGCAGAGCCTGCTGTTGGGCACTGTGGCCTGCAGCATCTCTGCACCCGCC 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         , ORGANISM: Homo sapiens
US-10-511-937-64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-511-937-64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301 '
                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         361
                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                             g
                                                                                                                                                                               Š
                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                       ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                     120
                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                               TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TACAAGCAGCACTGCCCCCCCCCCCCGGAAACTTCCTGTGCAACCCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TACAAGCAGCACTGCCCTCCAACCCCGGAAACTTCCTGTGCAACCCAGATTATCACCTTT 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361 GAAAGTTTCAAAGAGAACCTGAAGGACTTTCTGCTTGTCATCCCCTTTGACTGCTGGGAG 420
                                                                                                                          9
                                                                                                                                                                                                                  CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                         AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG
                                                                                                                          1 Argrescriscasascerscriscrerrisses arcristiscas caracteristrates are a serious and a serious arcristiscas and a serious arcristiscas are a serious arcristiscas architectural architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a serious architectures are a ser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: BY APPLICANT: APPLICANT: Woldgemuth, Jay
APPLICANT: Woldgemuth, Jay
APPLICANT: Woldgemuth, Jay
APPLICANT: Woldgemuth, Jay
APPLICANT: Woodward, Robert
APPLICANT: Ly, Ngoc
APPLICANT: Ly, Ngoc
APPLICANT: Perintice, James
APPLICANT: Rosenberg, Steven
TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR DIAGNOSING
TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR DIACNOSING
TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR DIACNOSING
TITLE OF INVENTION: AND MONITORING TRANSPLANT REJECTION
FILE REPERENCE: S06612000104
CURRENT FILING DATE: 2004-10-19
PRIOR APPLICATION NUMBER: US 10/131,831
PRIOR PILING DATE: 2002-04-24
PRIOR PILING DATE: 2002-04-24
PRIOR PILING DATE: 2002-01-220
NUMBER OF SEQ ID NOS: 3117
SOFTWARE: Patentin version 3.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 76.1%; Score 331; DB 6; Length 781; Best Local Similarity 85.1%; Pred. No. 3.5e-85; Matches 370; Conservative 0; Mismatches 65; Indels
         65; Indels
         0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; Sequence 396, Application US/10511937; Publication No. US20060088836A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCAGTCCAGGAGTGA 435
         Matches 370; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: DNA
CORGANISM: Homo sapiens
US-10-511-937-396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO 396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Н
                                                                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          £
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         용. 뭐.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠ
                                                                                                                                                                                     ò
                                                                                                                                                                                                                                              ద
                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                         ઠે
```

```
ö
                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    420
CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCCTG 120
                                                                                                   TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                       TACAAGCAGCACTGCCCCCCCCCCCGGAAACTTCCTGTGCAACCAAGCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                333 TACAAGCAGCACTGCCTCCAACCCCGGAAACTTCCTGTGCAACCCAGATTATCACCTTT 392
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       452
                                393 GAAAGTTTCAAAGGAAACCTGAAGGACTTTTCTGCTTGTCATCCCCTTTGACTGCTGGGAG
                                                                                                                                                                                                                                                                                                             AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       316 CCCCCCACCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTCAAAAG 365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 CCTCCAACCCCGGAAACTTCCTGTGCAACCCAGACTATCACCTTTGAAAG 50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INPORMATION:
APPLICANT: EXPRESSION DIAGNOSTICS, INC.
APPLICANT: Wohlgemuth, Jay
APPLICANT: Wohlgemuth, Jay
APPLICANT: Woodward, Robert
APPLICANT: Pry, Kirk
APPLICANT: Woodward, Robert
APPLICANT: Prentice, James
APPLICANT: Prentice, James
APPLICANT: Morris, MacDonald
APPLICANT: Morris, MacDonald
APPLICANT: Morris, MacDonald
APPLICANT: Morris, MacDonald
APPLICANT: Morris, Mathobs And COMPOSITIONS FOR DIAGNOSING
TITLE OF INVENTION: MITTOR AND MONITORING TRANSPLANT REJECTION
FILE REFERENCE: 506612000104
CURRENT APPLICATION NUMBER: US/10/511,937
CURRENT FILING DATE: 2003-04-24
PRIOR PILING DATE: 2003-04-24
PRIOR PILING DATE: 2002-04-24
PRIOR FILING DATE: 2002-04-24
PRIOR FILING DATE: 2002-12-20
NUMBER OF SEQ ID NOS: 3117
SOFTWARE: PATENTIN VERSION 3.2
SEQ ID NO 64
TANGTH: 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 38.8; DB 6; Length 50;
Pred. No. 0.009;
0; Mismatches 7; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 64, Application US/10511937; Publication No. US20060088836A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             453 CCAGTCCAGGAGTGA 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 86.0%;
Matches 43; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421 CCAGCCCAGAAGTAA 435
```

```
1362 gécéceáricagecea cea de desecado de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de consta de const
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1527 gécegegadececeáncicirerracióradadadentechadradececeraderrececed 1468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1467 GGCCCCATCAGCCACCAGGGGCAGCAGCTGATGACGCTGCAGCGCCACGTGCAGGGCTGT 1408
                                                            196 GCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAAAACAGGGCTTGCGGGGC 255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         196 GCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAACAGGGCTTGCGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 2243;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 7; Length 2562;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       62; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 33.8; DB 7; I
Pred. No. 1.1;
0; Mismatches 62;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Sequence 1196, Application US/11293697 |
| Publication No. US20060105376A1 |
| GENERAL INFORMATION: |
| APPLICANT: HELIX RESEARCH INSTITUTE |
| TILE OF INVENTION: Novel full length CDNA |
| FILE REFERENCE: H1-A0106 |
| CURRENT APPLICATION NUMBER: US/11/293,697 |
| CURRENT FILING DATE: 2005-12-05 |
| PRIOR FILING DATE: 2005-12-05 |
| NUMBER OF SEQ ID NOS: 5458 |
| SOFTWARE: PATENTIN VEY: 2.1 |
| SEQ ID NO 1196 |
| LENGTH: 2243 |
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-11-293-697-1692/c
Sequence 1692, Application US/11293697
Sequence 1692, Application US/11293697
FUBLICAGION US20060105376A1
GENERAL INFORMATION:
APPLICANT: HELIX RESEARCH INSTITUTE
TITLE OF INVENTION: Novel full length cDNA
FILLE REFERENCE: H1-A0106
CURRENT APPLICATION NUMBER: US/11/293,697
CURRENT FILING DATE: 2005-12-05
FRIOR APPLICATION NUMBER: US/10/108,260
FRIOR FILING DATE: 2002-03-28
NUMBER OF SEQ ID NOS: 5458
SOFTWARE: PATENTIN Ver. 2.1
SEQ ID NO 1692
LENGTH: 2562
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
7.8%; Score 33.8; Di
Best Local Similarity 53.4%; Pred. No. 1.1;
Matches 71; Conservative 0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              / Match 7.8%;
Local Similarity 53.4%;
hes 71; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                          1302 Grécécerééres 1290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1407 Grécécerééres 1395
                                                                                                                                                                                                                                                                                                                  316 CCCCCCACCCTGG 328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      316 CCCCCCACCCTGG 328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; TYPE: DNA
; ORGANISM: Homo sapiens
US-11-293-697-1196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: DNA
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-11-293-697-1196/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-11-293-697-1692
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Loca
Matches
                                                                                                                                                                             유
                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   업
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                 Sequence 113, Application US/10468193

Publication No. US20060100416A1

Publication No. US20060100416A1

GENERAL INFORMATION:
APPLICANT: Palli, Subba R.
APPLICANT: Cress, Dean E.
APPLICANT: Cress, Dean E.
APPLICANT: Cress, Dean E.
TITLE OF INVENTION: Novel Substitution Mutant Receptors and Their Use in A Nuclear
TITLE OF INVENTION: Receptor-Based Inducible Gene Expression System
FILE OF INVENTION: Receptor-Based inducible Gene Expression System
FILE SPECIATION NUMBER: US/10/468,193
CURRENT APPLICATION NUMBER: US 60/313,925

PRIOR FILING DATE: 2002-02-20

PRIOR FILING DATE: 2001-08-21

PRIOR FILING DATE: 2002-02-20

NUMBER OF SEQ ID NOS: 113

SOSTWARE PATENTIN OFFICE 133.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1422 decescicadeseces de cerentados de conservações de consece de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia de consecuencia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               104 CCATCAAGGAGGCCCTGAGCCTTCTGAACAACAGTAGTGACACTGCTGCTATCATGAATG 163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 829 cerreargadeacadargadregecedadeagadeagarerregargadrecedege 770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      164 AAACAGTAGAAGTCGTCTCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTC 223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              769 CTGCCATCGTGTACGACTCTCGCGTGTACGGCTGGTTGTTGGCGAACAGGATCGAGTCTG 710
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             224 GCCTGAAGCTGTACAAACAGGGCTTGCGGGGCAGCCTCATCAAGCTCGAAGGCCCCTTGA 283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              709 rereciacerceracececentececarecianes es per recipiedes es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contra es contr
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                196 GCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAACAGGCTTGCGGGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 1109;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 2139;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
8.4%; Score 36.4; DB 6; Length 11
Best Local Similarity 49.0%; Pred. No. 0.15;
Matches 97; Conservative 0; Mismatches 101; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 33.8; DB 7;
Pred. No. 1;
0; Mismatches 62;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: Novel full length cDNA FILE REFERENCE: 11-40106
CURRENT APPLICATION NUMBER: US/11/293,697
CURRENT FILING DATE: 2005-12-05
PRIOR APPLICATION NUMBER: US/10/108,260
PRIOR APPLICATION NUMBER: US/10/108,260
PRIOR APPLICATION NUMBER: US/10/108,260
NUMBER OF SEQ ID NOS: 5458
SOFTWARE: Patentin Ver. 2.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 965, Application US/11293697
Publication No. US20060105376A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  649 GCAACACGATCTGGTCCT 632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          284 CCATGATGGCCAGCCACT 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; TYPE: DNA
; ORGANISM: Nephotetix cincticeps
US-10-468-193-113
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ilarity 53.4%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; TYPE: DNA
; ORGANISM: Homo sapiens
US-11-293-697-965
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 71; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-11-293-697-965/c
US-10-468-193-113/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE: Pater
SEQ ID NO 965
LENGTH: 2139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQ ID NO 113
LENGTH: 1109
```

ð 쉱 ò g 8 엄 Š ö

ò

d

ò

q

ò

```
1167 AGCTGTGGGGAGCTGCTCAAGAAGGACAACACCTACGTCTACATGTGCGGGCTCAAGGGCA 1226
1107 AGACGAACGCGGCCGGGGAGAAGATGTACATCCAGACGCGCATGGCGGAGTACAAGGAGG 1166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2188 agaaaagcoccartriccaccardararrccocaagcaaccarcccarccrccaccac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2248 gagarccicgccgrcgcchrccicgccirgagccrcgccgagcagcrcgcrcgcrcgcgag 2307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2308 cccrigaricrircriccagarcarccrigarcaacaacagacriccarccaagracg 2367
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 19, Application US/09484331

Publication No. US20060105318A1

GENERAL INFORMATION:

GENERAL INFORMATION:

APPLICANT: HARRITON:

APPLICANT: RUNDLETT, STEPHEN

TITLE OF INVENTION: ENDOGRNOUS GENES

FILE REFERENCE: 0221-0003L

CURRENT APPLICATION NUMBER: US/09/484,331

CURRENT FILING DATE: 2000-01-18

PRIOR APPLICATION NUMBER: 09/276,820
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            199 GAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAACAGGGGCTTGCGGGGGAGGC 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                139 AGTGACACTGCTATCATGAATGAAACAGTAGAAGTCGTCTCTGAAACGTTTGACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7.5%; Score 32.6; DB 7; Length 4611;
48.2%; Pred. No. 3.1;
tive 0; Mismatches 99; Indels 0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT: GUYON, Thierry
APPLICANT: Borrelly, Gilles
APPLICANT: Borrelly, Gilles
APPLICANT: Distrant, Lila
APPLICANT: Intenat, Lila
APPLICANT: Intenat, Lila
APPLICANT: Vega, Manuel
ITILE OF INVENTION: MODIFIED GROWTH HORMONES
FILE REFERENCE: 17109-015001/925
CURRENT APPLICATION NUMBER: US/11/267,871
CURRENT FILING DATE: 2005-11-03
PRIOR FILING DATE: 2005-08-08
PRIOR FILING DATE: 2005-08-08
PRIOR FILING DATE: 2004-11-04
NUMBER OF SEQ ID NOS: 719
SOFTWARE: PASSEQ for Windows Version 4.0
SEQ ID NO 717
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; Sequence 717, Application US/11267871; Publication No. US20060094655A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OTHER INFORMATION: pTOPO hGH vector
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: DNA
ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2368 TGČTČGČŤCGÁ 2378
                                                                                                                                                                                                                                                                                1227 TGGAGAAGGGC 1237
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity 48.2
Matches 92, Conservative
                                                                                                                                                                                                              305 AGCAGCACTGC 315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            319 CCCACCCTGGA 329
                                                                                                                                                                                                                                                                                                                                                                                       RESULT 10
US-11-267-871-717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-11-267-871-717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-484-331-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURE:
                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                          δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
1846 GCCGGGGAGGCCCGAGGCCTGTAGCCTGGACAGCTGCAAGGGCCCTGGGTCCCCCCC 1787
                                                                                                                                    1786 gécicciáricia de de central de contra de contra de descentra de contra 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            250 CGGGGCAGCCTCATCAAGCTCGAAGGCCCCTTGACCATGATGGCCAGCAGCAGTACAAGCAG 309
                                                                     AGCCTCATCAAGCTCGAAGGCCCCCTTGACCATGATGGCCAGCTACAAGCAGCACTGC 315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          rregagaccrrgccecreregrecresresresresresresresresresresresresres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           129 Agcadercerecricanderececardecededecerecrecededecededaeceere
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          185 AAACGTTTGACGCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAACAGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        190 TTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAAAAAGGGCTTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    7.7%; Score 33.6; DB 7; Length 2062; 52.9%; Pred. No. 1.2; tive 0; Mismatches 64; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DB 6; Length 1628;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 1541, Application US/11293697
Publication No. US20060105376A1
GENERAL INFORMATION:
APPLICANT: HELIX RESEARCH INSTITUTE
TITLE OF INVENTION: Novel full length cDNA
FILE REPERCES: H1-A0106
CURRENT APPLICATION NUMBER: US/11/293,697
CURRENT FILING DATE: 2005-12-05
PRIOR PAPLICATION NUMBER: US/10/108,260
PRIOR FILING DATE: 2002-03-28
NUMBER OF SEQ ID NOS: 5458
SOFTWARE: Patentin Ver. 2.1
SEQ ID NO 1541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 33.4; DI
Pred. No. 1.2;
0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        310 CACTGCCCCCCCACCC 325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; ORGANISM: Zea mays subsp. mays
US-10-953-349-35010
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          7.7%;
ilarity 53.4%;
Conservative 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           cccaeccaecccrcc 54
                                                                                                                                                                                                                                                                                1726 Grccccrccrcc 1714
                                                                                                                                                                                                              316 CCCCCCACCCTGG 328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  72; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; ORGANISM: Homo sapiens
US-11-293-697-1541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Best Local Similarity
Matches 72; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 70; Conserv
                                                                                                                                                                                                                                                                                                                                                                                       RESULT 8
US-11-293-697-1541/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE: DNA
```

g ò ద ò

ઠ

```
2382 écécricáricértérechagardardirdardadadadadegerrecardende 2441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2680 GAGATCCTCGCCGTCGGGCATGCCTTGAGCCTGGCGAACAGTTCGGCTGGCGAG 2621
                                                              2262 AGAAAAGGGGCCATTTTCCACCATGATATTCGGCAAGCAGGCATCGCCATGGGTCACGAC 2321
                                                                                                                                                       2740 AGAAAAGCGGCCATTTTCCACCATGATATTCGGCAAGCAGGCATCGCCATGGGTCACGAC 2681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2620 cccrrearecrereceasarcarecreaares 2561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 27, Application US/09484331

Publication No. US20060105318A1

GENERAL INFORMATION:
APPLICANT: HARRINGTON, JOHN J.
APPLICANT: SHERF, BRUCE
APPLICANT: RUNDLETT, STEPHEN
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR NON-TARGETED ACTIVATION OF
TITLE OF INVENTION: LENDGENOUS GENES
FILE REFERENCE: 0221-0003L
CURRENT APPLICATION NUMBER: US/09/484,331
CURRENT APPLICATION NUMBER: 09/276,820
PRIOR PRIOR FILING DATE: 1999-03-26
                                                                                                                     199 GAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAACAGGGCTTGCGGGGCAGC 258
                                                                                                                                                                                                                               199 GAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAACAGGGCTTGCGGGGCAGC 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   139 AGTGACACTGCTGCTATCATGAATGAAACAGTAGAAGTCGTCTCTGAAACGTTTGACGCC 198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            139 AGTGACACTGCTGCTATCATGAATGAAACAGTAGAAGTCGTCTCTGAAACGTTTGACGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 13
US-10-485-397-10/c
; Sequence 10, Application US/10485397
; Publication No. US2006099673A1
; GENERAL INFORMATION:
; APPLICANT: ALTANA Pharma AG
; TITLE OF INVENTION: Novel Recombinant Gene Expression Method
; FILE REFERENCE: B697USCT01
; CURRENT APPLICATION NUMBER: US/10/485,397
; CURRENT FILING DATE: 2004-01-30
; NUMBER OF SEQ ID NOS: 10
; SOFTWARE: Patentin version 3.0
; SEQ ID NO 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match 7.5%; Score 32.6; DB 6; Length 5264; Best Local Similarity 48.2%; Pred. No. 3.2; Matches 92; Conservative 0; Mismatches 99; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ; FEATURE:
; OTHER INFORMATION: pSEAPstopneo is a circular Plasmid DNA
US-10-485-397-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2560 recrcecrcsa 2550
                                                                                                                                                                                                                                                                                                                                                                                               2442 TGCTCGCTCGA 2452
                                                                                                                                                                                                                                                                                                                                        319 CCCACCCTGGA 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               319 CCCACCCTGGA 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: DNA ORGANISM: Artificial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 14
US-09-484-331-27
                                                         g
                                                                                                                     ઠે
                                                                                                                                                             g
                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: SHERF, BRUCE
APPLICANT: SHERF, BRUCE
APPLICANT: SHERF, BRUCE
TITLE OF INVENTION: COMPOSITIONS AND METHODS FOR NON-TARGETED ACTIVATION OF
TITLE OF INVENTION: ENDOGENOUS GENES
TITLE OF INVENTION: ENDOGENOUS GENES
FILE REPERENCE: 0221-00031
CURRENT APPLICATION NUMBER: 09/276,820
PRIOR FILING DATE: 1999-03-06
PRIOR FILING DATE: 1999-03-08
PRIOR FILING DATE: 1999-03-08
PRIOR FILING DATE: 1999-02-19
PRIOR FILING DATE: 1999-02-19
PRIOR FILING DATE: 1999-02-19
PRIOR FILING DATE: 1999-02-19
PRIOR FILING DATE: 1999-02-19
PRIOR FILING DATE: 1999-02-19
PRIOR FILING DATE: 1999-02-19
PRIOR FILING DATE: 1999-02-19
PRIOR FILING DATE: 1999-02-16
SPIOR FILING DATE: 1990-02-26
NUMBER OF SEQ ID NOS: 33
SOFTWARE: PALENTIN VET: 2.1
SEQ ID NO 20
LENGTH 5247
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2314 AGAAAAGCGGCCATTTTCCACCATGATATTCGGCAAGCAGCATCGCCATGGGTCACGAC 2373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2374 GAGATCCTCGCCGTCGGCATGCTCGCCTTGAGCCTGGCGAACAGTTCGGCTGGCGCGAG 2433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2434 CCCCTGATGCTCTTCGTCCAGATCATCCTGATCGACAAGACCGGCTTCCATCCGAGTACG 2493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        139 AGTGACACTGCTGCTATCATGAAACAGTAGAAGTCGTCTCTGAAACGTTTGACGCC 198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     199 GAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAACAGGGCTTGCGGGGCAGC 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 4644;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 5247;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 7.5%; Score 32.6; DB 1; Length 4. Best Local Similarity 48.2%; Pred. No. 3.1; Matches 92; Conservative 0; Mismatches 99; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     99; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 7.5%; Score 32.6; DB 1; Best Local Similarity 48.2%; Pred. No. 3.2; Matches 92; Conservative 0; Mismatches 99;
PRIOR FILING DATE: 1999-03-26
PRIOR APPLICATION NUMBER: 09/263,814
PRIOR FILING DATE: 1999-03-08
PRIOR APPLICATION NUMBER: 09/253,022
PRIOR FILING DATE: 1999-02-19
PRIOR FILING DATE: 1999-02-19
PRIOR PILING DATE: 1998-09-24
PRIOR PILING DATE: 1998-09-24
PRIOR PILING DATE: 1997-09-26
NUMBER OF SEQ ID NOS: 33
SOFTWARE: PATENTER OF SEQ ID NOS: 33
SOFTWARE: PATENTER OF SEQ ID NOS: 33
LENGTH: 4644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; Sequence 20, Application US/09484331; Publication No. US20060105318A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               2494 recreecrea 2504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            319 CCCACCCTGGA 329
                                                                                                                                                                                                                                                                                                                                                                  TYPE: DNA
CORGANISM: Homo sapiens
US-09-484-331-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; ORGANISM: Homo sapiens
US-09-484-331-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: DNA
```

g

ઠે g à g

ò

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2329 AGAAAAGCGGCCATTTTCCACCATGATATTCGGCAAGCAGGATCGCCATGGCTCACGAC 2388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2389 GAGATCCTCGCCGTCGGCATGCTCGCCTTGAGCCTGGCGAACAGTTCGGCTGGCGCGAG 2448
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2449 cccrigargererregreeagarcarecrgaregaeagaecggerrecaregagaeg 2508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2884 Agaaaacceccartriccaccardaararrceccaaecaaccarceccarecercacaec 2825
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              2824 gagarccrccccarcegearacrceccrrcaeccraecaacaacaarccacrcacraecaaa 2765
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2764 CCCCTGATGCTCTTCGTCCAGATCATCCTGATCGACAAGACCGGCTTCCATCCGAGTACG 2705
                                                                                                                                                                                                                                                                                                                                                                                                                                          139 AGTGACACTGCTGCTATCATGAATGAAACAGTAGAAGTCGTCTCTGAAACGTTTGACGCC 198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             199 GAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAACAGGGCTTGCGGGGCAGC 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                199 GAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAACAGGGCTTGCGGGGCAGC 258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        139 AGTGACACTGCTGCTATCATGAAACAGTAGAAGTCGTCTCTGAAACGTTTGACGCC
                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        o'
                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 9, Application US/10485397

Publication No. US20060099673A1

GENERAL INFORMATION:

ALTANA Pharma AG

TILLE REFERENCE: B697USPCT01

CURRENT APPLICATION NUMBER: US/10/485,397

CURRENT PILING DATE: 2004-01-30

NUMBER OF SEQ ID NOS:

SOFTWARE: FitentIn version 3.0

SOFTWARE: FitentIn version 3.0

SOFTWARE: DAA

TYPE: DAA

TYPE: DAA

SORGANISM: Artificial
                                                                                                                                                                                                                                                                                                                                              7.5%; Score 32.6; DB 1; Length 5314;
48.2%; Pred. No. 3.3;
tive 0; Mismatches 99; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 7.5%; Score 32.6; DB 6; Length 5408; Best Local Similarity 48.2%; Pred. No. 3.3; Matches 92; Conservative 0; Mismatches 99; Indels 0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FEATURE:
; OTHER INFORMATION: pSEAPBtopMneo is a circular Plasmid DNA
US-10-485-397-9
PRIOR APPLICATION NUMBER: 09/263,814
PRIOR FILING DATE: 1999-03-08
PRIOR PRIOR OF PRIOR OF PRIOR PRIOR PRIOR OF PRIOR PLING DATE: 1999-02-19
PRIOR PILING DATE: 1999-02-19
PRIOR APPLICATION NUMBER: 09/159,643
PRIOR APPLICATION NUMBER: 08/941,223
PRIOR FILING DATE: 1997-09-26
NUMBER OF SIO ID NOS: 33
SOFTWARE: PACENTIN Ver: 2.1
SEQ ID NO 27
LENGTH: 5314
                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local Similarity 48.29
Matches 92; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             recreecree 2519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     319 CCCACCCTGGA 329
                                                                                                                                                                                                                                                                                   ORGANISM: Homo sapiens
US-09-484-331-27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-10-485-397-9/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2509
                                                                                                                                                                                                                                                                    TYPE: DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6 6 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
```

```
Oy 319 CCCACCTGGA 329

| | | | | | | |

Db 2704 TGCTGGTCGA 2694

Search completed: May 26, 2006, 01:31:24
Job time : 133 secs
```

```
DQ053415 Homo sapi
AW207707 UI-H-BI2-
BE21892 hv47807.x
A1912784 we13f07.x
BE659962 7e27908.x
BE669962 7e27908.x
DQ053416 Pan trog1
CF341802 TGEST2734
BE873976 601484045
CF370966 TGEST2735
CF370966 TGEST2735
BX111836 BX111836
CA475551 714908 MA
BM539160 hb05e10.9
CF614774 CES009198
BF938995 7r03f11.x
CB430266 606148 MA
CV700569 TGEST285
AW784714 zb77908.9
                                                                              (without alignments) 7167.033 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Description
                                                                                                                                       1 atgtggctgcagaacctgct......ggaagccagccagaagtaa
                                                                  May 26, 2006, 00:46:33 ; Search time 3394 Seconds
                                                                                                                                                                                                                       96473596
GenCore version 5.1.8 (c) 1993 - 2006 Biocceleration Ltd.
                                                                                                                                                                                                48236798 segs, 27959665780 residues
                                                                                                                                                                                                                     Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SUMMARIES
                                                                                                                                                                                                                                                                              Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                            nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AI912784
BE671554
BE669962
DQ053416
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CF370966
BX111836
CB457551
BM539160
CF614774
BF938995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DQ053415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CB430266
CV700569
AW784714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AW207707
BE218982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CF341802
BE873976
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CF370833
                                                                                                                                                            IDENTITY_NUC
Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                             seq length: 0
seq length: 200000000
                                                                                                                                                                                                                                                                                                                                    9b_est1:;

9b_est2::;

9b_est6::;

9b_est7::;

9b_est7::;

9b_est7::;

9b_gss1:;

9b_gss1:;

9b_gss1:;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                 US-10-614-481-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
          Copyright
                                                                                                                                                                                                                                                                                                                             EST: *
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query
                                                                                                                                                                                                                                                                                                                                                                                                 6.
74.
110.
143.:
                                                                                                                                                             Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        331
331
331
331
329.4
329.4
329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        323
318.2
318.2
318.2
310.6
300.2
292.2
                                                                                                                           Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score
                                                                                                                                                                                                                                            Minimum DB E
Maximum DB E
                                            OM nucleic
                                                                                                                                        Sequence:
                                                                                                                                                                                                Searched:
                                                                                                                                                                                                                                                                                                                             Database
                                                                   Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Result
```

CD369973 UI-H-FT1-	BU633411 UI-H-FL1-	AA995402 or74f05.8	DV799573 est_t_tru		CD368851 UI-H-FT1-	AW951121 EST363191	AK053196 Mus muscu			AA361936 EST71529		BG236310 naf26a07.	DN753142 GL-Cf-993		CF370885 TGESTzyj5	.BG236058 naf21h12.	CB430980 606916 MA	AI180669 uc47d08.r		AI121878 ud13c11.r	DNS05558 HL01015B1	AG112609 Pan trogl	DR004241 TC124014	0	CF341168 TGESTZYj4
CD369973	BU633411	AA995402	DV799573	CA307828	CD368851	AW951121	AK053196	CD367244	A1677936	AA361936	BB664267	BG236310	DN753142	BB533718	CF370885	BG236058	CB430980	AI180669	BX521029	AI121878	DNS05558	AG112609	DR004241	CF341980	CF341168
S	ო	-	ដ	4	Ŋ	7	9	ഹ	-	٦	^	~	σ	7	Ŋ	~	4	ч	4	-	σ	14	σ	ហ	S
718	701	475	388	999	661	336	1034	609	549	274	629	531	631	647	269	244	517	483	369	470	488	697	678	160	136
65.1	62.6	62.3	6.09	59.3	56.1	53.7	50.5	48.0	42.2	41.3	41.3	40.5	38.6	34.4	32.1	31.6	30.9	28.3	28.1	25.9	24.8	24.4	23.7	22.1	20.4
283	272.2	271	264.8	258	244.2	233.6	219.8	208.8	183.6	179.8	179.8	176.2	167.8	149.6	139.8	137.4	134.2	123	122.4	112.8	108	106.2	. 103	96	88.6
20	21	22	23	24	25	26	27	28	53	30	31	32	33	34	35	36	37		39		41	42	43	44	45
					ย				ט			ט					ບ								

ഗ
H
z
ш
Σ
Z
Ö
Ă
ᆸ
A.
-

```
DQO53415 435 bp DNA linear GSS 02-JUN-2005
Homo sapiens HC14003 gene, VIRTUAL TRANSCRIPT, partial sequence,
                                                                                                                                                                                                                                                                     Hominidae, Homo.

1 (bases 1 to 435)

1 (bases 1 to 435)

1 (bases 2 to 435)

1 (bases 3 to 435)

1 (bases 3 to 435)

1 (bases 4 to 435)

1 (bases 4 to 435)

1 (bases 5 to 435)

1 (bases 6 to 610)

2 (bases 6 to 610)

3 (bases 6 to 610)

4 (bases 6 to 610)

1 (bases 7 to 610)

2 (bases 6 to 610)

3 (bases 6 to 610)
                                                                                                                                                                                                                             Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Buarchontoglires; Primates; Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Closes 1 to 435)
Nielsen,R., Bustamante,C., Clark,A.G., Glanowski,S., Sackton,T.B.
White,T.J., Shinsky,J.J., Adams,M.D. and Cargill,M.
Direct Submission
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Submitted (05-MAT-2005) Celera Genomics, 45 West Gude Drive, Rockville, MD 20850, USA
This sequence was made by sequencing genomic exons and ordering them based on alignment. Translation starts at the beginning of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 76.1%; Score 331; DB 14; Length 435;
                                                                                                                                                                                                                                                                                                                                                                                                                                       (er) PLoS Biol. 3 (6), E170 (2005)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1. .435
/organism="Homo sapiens"
/mol_type="genomic DNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              /locus_tag="HC14003"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   cocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 chromosome="5"
                                                                                                                                     DQ053415.1 GI:66899362
                                                                                            genomic survey sequence
                                                                                                                                                                                  Homo sapiens (human)
                                                                                                                                                                                                              Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                               15869325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
                                                                                                                                         VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bource
                                                                    DEFINITION
                                                                                                                                                                                                                                                                                                  REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
JOURNAL
RESULT 1
DQ053415
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           gene
                                                                                                               ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                       JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                               PUBMED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURES
                                                                                                                                                                                                                                                                                                                                                                                          TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORIGIN
```

```
471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 76.1
Best Local Similarity 85.1
Matches 370; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCAGTCCAGGAGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CCAGCCCAGAAGTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Tumor Gene Index
Unpublished (1997)
Contact: Robert Strausberg, Ph.D.
Email: cgapbs-remail.nih.gov
Oligo-dT track not found, Not I site shown in beginning of sequence
is likely internal to the message. CDNA Library Preparation: M.B.
Soares Lab Clone distribution: NCI-CGAP clone distribution
information can be found through the I.M.A.G.E. Consortium/LLNL at:
www-bio.lln.gov/bbrp/image/image.html
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1. .588

/mol_type="mRNA"
/mol_type="mRNA"
/mol_type="mRNA"
/db xref="reaxon:9606"
/clone="IMAGE:2724184"
/clone="IMAGE:2724184"
/clone="IMAGE:2724184"
/clone lib="NGI CGAP Sub4"
/note="Vector: pT7T3D-PacI; Site_1: Not I; Site_2: Eco RI;
The NCI_CGAP_sub4 library is a subtracted library derived
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EST 02-DEC-1999
                                                                                                                                                                                                      61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                              240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301 racaagcagcacrecerceaacceegaaacrrecrereeaaccaaccaagrrarcaccrrr 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361 GAAAGTTTCAAAGAGAACCTGAAGGACTTTCTCCTTGTCATCCCCTTTGACTGCTGGGGAG 420
                                                                                   9
                                                                                                                                              9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Euarchontoglires, Primates, Catarrhini, Hominidae, Homo.

1 (Bases 1 to 588)

NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.

National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 UI-H-BI2-age-e-09-0-UI.81 NCI_CGAP_Sub4 Homo sapiens cDNA clone AM207707
                                                                                                                                                                                                                                              121 AGCCTTCTGAACAACAGTAGTGACACTGCTGCTATCAATGAAACAGTAGAAGTCGTC
                                                                                                                        1 ATGTGGCTGCAGAGCCTGCTGCTGCTTGGGCACTGTGGGCCTGCAGCATCTCTGCACCCGCC
                                                                                                                                                                                                                                                                                                                                                                                121 cércricida a contra de la contra del la contra del la contra del la contra del la contra del la contra de la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contr
                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TACAAGCAGCACTGCCCCCCCCCCCCCCCGCAAACTTCCTGTGCAACCCAGATGATCACCTTC
                                                                                      1 ATGIGGCIGCAGAACCIGCITCTICTGGGCACTGIGGTTTACAGCATGCCCGCACCCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAGGCCTTGCGGGCCAGCCTCATCAAGCTCGAAGGCCCCTTGACCATGATGGCCCAC
                           Indels
                        65;
ed. No. 5.7e-83;
Mismatches 65
   Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Location/Qualifiers
                           ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Seg primer: Mi3 Forward POLYA=No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AW207707.1 GI:6507203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ccagrccaggagray 435
85.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       sapiens (human)
                           Matches 370; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Homo sapiens
   Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ношо
                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 2
AW207707
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMMENT
                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     유
                                                                                                                                  원
                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                         8
                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                 셤
```

1456008-1456775, 1200552-1502655) NNI CGAP Kid5 pool 1:
1456008-1456775, 130252-1502655) NNI CGAP Kid5 pool 1:
LLAM 3338-3342, 3722-3725, 3776-3778 [IMAGE CloneIDS
1323392-1325831, 1471368-147290, 1492104-1493255)
NCI CGAP\_LU5 pool 1: LLAM 3575-3582, 3811-3854 [IMAGE
CloneIDS 1414920-1417991, 1520904-1522439) NCI CGAP\_GCA
pool 1: LLAM 3164-3167, 3716-3720, 3733-3735 [IMAGE
CloneIDS 1257096-1258631, 1469064-1470983,
1475592-1476743) NCI CGAP\_PR22 pool 1: LLAM 2457-2459,
2758-2759, 3062-3068 [IMAGE CloneIDS 985608-986759,
1101192-11011959, 1217928-1220615) NCI CGAP\_CO10 pool 1:
LLAM 2644-2653, 2871-2872 (IMAGE CloneIDS 1057416-1061255,
1145584-1145351) Subtraction was performed as previously
described [Bonaldo, Lennon & Soares (1996): Normalization
and Subtraction: Two Approaches To Pacilitate Gene
Discovery. Genome Research 6, 791-806.]
TAG\_LISSUE=COLO
TAG\_LIB=NCI CGAP\_CO4 from the NCI CGAP Sub2 library which is a subtracted library derived from the NCI CGAP Sub1 library, which is a subtracted library derived from BLB Loronstitutes a mixture of 21 normalized or subtracted NCI CGAP [1] braries: NCI CGAP CO4, NCI CGAP Pr22, NCI CGAP Pr28, NCI CGAP CO10, NCI CGAP CO16, NCI CGAP Kid1, NCI CGAP LD12, NCI CGAP EXID, NCI CGAP LD12, NCI CGAP LD12, NCI CGAP LD12, NCI CGAP LD12, NCI CGAP LD2, NCI CGAP LD3, NCI ö 240 336 420 456 180 216 300 360 61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGCCATCAAGGAGGCCCTG 120 96 TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 397 GAAAGTITCAAAGAGAACCTGAAGAACTITCIGCTIGICAICCCTTIGACIGCTGGAG TACAAGCAGCACTGCCCCCCCCCCCTGGAAACTTCCTGTGCAACCCCAGATGATCACCTTC 361 AAAAGTITCAAAAAGAACCIGAAGGAITITCIGITIGAGAICCCGITIGACIGCIGGAAG Gaps , 0 Length 588; 65; Indels 76.1%; Score 331; DB 7; 85.1%; Pred. No. 6.2e-83; iive 0; Mismatches 65.

```
TACAAGCAGCACTGCCCCCCACCCTGGAAACTTCCTGTGCAACCCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    65; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    76.1%; Score 331; DB 1;
llarity 85.1%; Pred. No. 6.5e-83;
Conservative 0; Mismatches 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AI912784.1 GI:5632639
                                                                                                                                                                                                                                                                                                 421 CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                  CCAGTCCAGGAGTGA 439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           999. .
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    370;
                                        301
                                                                                                                                                                                                                                                                                                                                                                  425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 4
AI912784
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DRIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LOCUS
                                                                                           a
                                                                                                                                                                ð
                                                                                                                                                                                                                      qq
                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Contact: Robert Strausberg, Ph.D.

Email: cgapbs-remail.nih.gov
Trissue Procurement: Christopher Moskaluk, M.D., Ph.D., Michael R.

Trissue Procurement: Christopher Moskaluk, M.D., Ph.D., Michael R.

Emmert-Buck, M.D., Ph.D.

CDNA Library Preparation: M. Bento Soares, Ph.D.

CDNA Library Arrayed by: Greg Lennon, Ph.D.

DNA Sequencing by: Washington University Genome Sequencing Center

Clone distribution: NOT-CGAP clone distribution information can be
found through the I.M.A.G.E. Consortium/LINL, send email to:
infoelmage-lln1.gov
Seq primer: -40UP from Gibco

High quality sequence stop: 445.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BE218982
hv47a07.x1 NCI CGAP Lu24 Homo sapiens CDNA clone IMAGE:3176532 3'
similar to gb:M11220 GRAMUJOCYTE-MACROHAGE COLONY-STIMUJATING
FACTOR PRECURSOR (HUMAN); mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     185 TCAGAAATGTTTGACCTCCAGGAGCCGACCTGCCTACAGACCCGCCTGGAGCTGTACAAG 244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         64
                                                                                                                                                                                                                                                                                                                                                              Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Euarchontoglires, Primates, Catarrhini,
                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 (bases 1 to 660)
NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Project (CGAP),
Tumor Gene Index
Unpublished (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5 ATGTGGCTGCAGAGCCTGCTGCTCTTGGGCACTGTGGCCTGCAGCATCTCTGCACCCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       65 cécrcececadececadadecadecendes de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de contra de
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       76.1%; Score 331; DB 7; Length 660; 85.1%; Pred. No. 6.5e-83; ive 0; Mismatches 65; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /tissue_type="carcinoid"
/lab host="DH108"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /mol_type="mRNA"
/db_xref="taxon:9606"
/clone="IMAGE:3176532"
                                                                                                                                                                                                                             BE218982.1 GI:8906300
                                                                                                                                                                                                                                                                                                 sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity 85.1
Matches 370; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .660
                                                                                                                                                                                                                                                                                                                                                                                                                               Hominidae; Homo
                                                                                                                                                                                                                                                                                                                                   sapiens
                                                                                                                                                                                                                                                                                                 Homo
                                                                                                                                                                                                                                                                                                                                   Homo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                          VERSION
KEYWORDS
SOURCE
RESULT 3
BE218982
                                                                                                                                                                                              ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORIGIN
```

ð

유

ò d ò 요 ઠે a ò

```
/organism="Homo sapiens"
/mol_type="mRNA"
/db_refe"twan:9606"
/clone="twan:9606"
/tissue_type="carcinoid"
/tissue_type="carcinoid"
/tissue_type="carcinoid"
/tissue_type="carcinoid"
/tissue_type="carcinoid"
/tobe=libe="NNI_CGAP_Lu24"
/clone_lib="NNI_CGAP_Lu24"
/clone_lib="NNI_CGAP_Lu24"
/clone_normalized_library_NCI_CGAP_Lu5 was prepared, and sschenormalized library_NCI_CGAP_Lu5 was prepared, and ssciccles were made in vitro. Following HAP_purification, this DNA was used as tracer in a subtractive hybridization reaction. The driver wds PCR-amplified cDNAs from a pool of 5,000 clones made from the same library (cloneIDs 1414920-1417991 and 15203094-122439). Subtraction by Bento Soares and M. Fatima Bonaldo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CDNA Library Preparation: M. Bento Soares, Ph.D. CDNA Library Preparation: M. Bento Soares, Ph.D. CDNA Library Arrayed by: Greg Lennon, Ph.D. DNA Sequencing by: Mashington University Genome Sequencing Center Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL at:
www-bio.llnl.gov/bbrp/image/image.html
Insert Length: 743 Std Error: 0.00
Beg primer: -40UP from Gibco
High quality sequence stopp: 447:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A1912784 666 bp mRNA linear EST 18-DEC-1999 well3f0'.x1 NCI CGAP Lu24 Homo sápiens CDNA clone IMAGE:2240997 3' similar to gb:M11220 GRAUJUCYTE-MACROPHAGE COLONY-STIMULATING PACTOR PRECURSOR (HUMAN); mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                       424
305 TACAAGCAGCACTGCCCTCCAACCCCGGAAACTTCCTGTGCAACCCCAGATTATCACCTTT 364
                                                                           361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Euarchontoglires, Primates, Catarrhini,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tissue Procurement: Christopher Moskaluk, M.D., Ph.D., Michael R.
Emmert-Buck, M.D., Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hominidae; Homo.

(Loases 1 to 666)

NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.

National Cancer institute, Cancer Genome Anatomy Project (CGAP),

Tumor Gene Index

Unpublished (1997)
                                                                                                                                       365 GAAAGTTTCAAAGAGAACCTGAAGGACTTTCTCCTTGTCATCCCCTTTGACTGCTGGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5 ATGTGGCTGCAGAGCCTGCTGCTCTTGGGCACTGTGGCCTGCAGCATCTCTGCACCCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 ATGIGGCIGCAGAACCIGCTICTICIGGGCACTGIGGTTTACAGCAIGCCGCGCACCCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 666;
```

ö

9 71 300

371

431

ď.

240

251

180

191

131

Q ò 셤 ò g ò

ò

g

g

ઠે

g

ઠ

g

ઠે

```
695 bp mRNA linear EST 08-SEP-2000 7e27g08.x1 NCI CGAP Lu24 Homo sabiens cDNA clone IMAGE:2283742 3' similar to gb:M11220 GRANULOCYTE-MACROPHAGE COLONY-STIMULATING FACTOR PRECURSOR (HUMAN); mRNA bequence.
BE669962.1 GI:10030503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CDNA Library Preparation: M. Bento Soares, Ph.D. CDNA Library Arrayed by: Greg Lennon, Ph.D. DNA Sequencing by: Washington University Genome Sequencing Center Clone distribution: NCI-CGAP clone distribution information can be found through the I.M.A.G.E. Consortium/LLNL, send email to: info@image.llnl.gov
reaction. The driver was PCR-amplified cDNAs from a pool of 5,000 clones made from the same library (cloneIDs 1414920-1417991 and 1520904-1522439). Subtraction by Bento
                                                                                                                                                                                                                                                                                      61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TACAAGCACACCCCCCCCCCCCCCCGGAAACTTCCTGTGCAACCCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Bukaryota, Metazoa, Chordata, Craniata, Vertebrata, Buteleostomi;
Mammalia, Eutheria, Euarchontoglires, Primates, Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hominidae; Homo.

1 (bases 1 to 695)

NCI-CGAP http://www.ncbi.nlm.nih.gov/ncicgap.
NAtional Cancer Institute, Cancer Genome Anatomy Project (CGAP),
Tumor Gene Index
Unpublished (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              192 TCAGAAATGTTTGACCTCCAGGAGCCGACCTGCCTACAGACCCGCCTGGAGCTGTACAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Email: cgapbs r@mail.nih.gov
Tissue Procurement: Christopher Moskaluk, M.D., Ph.D., Michael
Emmert-Buck, M.D., Ph.D.
                                                                                                                                                                                                                                                                                                                      cerresceaececaecaecaeceraeceresaecarersaarsecarecaesaececes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       132 cercrecreaacergacracacacacrecrecreagargaargaaacacracare
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTTGAGATCCCGTTTTGACTGCTGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA
                                                                                                                                                                   Gaps
                                                                                                                                                                   ö
                                                                                                                         Length 672;
                                                                                                                                                                 65; Indels
                                                                                                                      Score 331; DB 7;
Pred. No. 6.5e-83;
0; Mismatches 65
                                                           Soares and M. Fatima Bonaldo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Contact: Robert Strausberg, Ph.D.
                                                                                                                           76.1%;
85.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421 CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     432 ccadrccadgacrda 446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo sapiens (human)
                                                                                                                                                                   370; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Homo sapiens
                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EST
                                                                                                                           Query Match
Best Local S:
Matches 370
                                                                                                                                                                                                                                                  12
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                72
                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 6
BE669962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOURCE
                                                                                    DRIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                        à
                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Contact: Robert Strausberg, Ph.D.
Email: cgapbs-r@mail.nih.gov
Tinsue Procurement: Christopher Moskaluk, M.D., Ph.D., Michael R.
Tinsue Procurement: Christopher Moskaluk, M.D., Ph.D., Ph.D.
CDNA Library Preparation: M. Bento Soares, Ph.D.
CDNA Library Preparation: M. Bento Soares, Ph.D.
DNA Sequencing by: Washington University Genome Sequencing Center
Clone distribution: NOT-CGAP clone distribution information can be
found through the I.M.A.G.E. Consortium/LINL, send email to:
info@lamage.llnl.gov
Seq primer: -40UP from Gibco
High quality sequence stop: 440.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 7653h07.x1 NCI CGAP Lu24 Homo sapiens cDNA clone IMAGE:3286237 3' similar to gb:M1220 GRANULOCYTE-MACROPHAGE COLONY-STIMULATING PEACTOR PRECURSOR (HUMAN);, mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /tissue_type="carcinoid"
| Lisbue_type="carcinoid" |
| Lisb host="DH10B" |
| Clone lib="NCI CGAP LU24" |
| Chote="Organ: lung; Vector: pT7T3D-PacI; Plasmid DNA from the normalized library NCI CGAP Lus was prepared, and secircles were made in vitro. Following HAP purification, this DNA was used as tracer in a subtractive hybridization
                                                                                                                                                                   240
                                                                                  300
                                                                                                                                                                                                                                                                                                                                  TACAAGCAGCACTGCCCCCCCCCCCCCCTGGAAACTTCCTGTGCAACCCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                      364
                                                                                                                                                                                                                                                                                                                                                                                                               361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                           184
                                                                                                                                                                                                                                                                       365 GAAAGTTTCAAAGAGAACCTGAAGGACTTTCTCTCTTGTCATCCCCTTTGACTGCTGGGAG 424
                                          124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Butheria, Euarchontoglires, Primates, Catarrhini,
                           CGCTCGCCCAGCCCCAGCAGCCCTGGGAGCATGTGAATGCCATCCAGGAGGCCCGG
                                                                                                                                                                                                                                               (CGAP)
      CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGGTGTGGATGCCATCAAGGAGGCCCTG
                                                                                                          181 TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Hominidae, Homo.
I (bases 1 to 672)
NCI-GAP http://www.ncbi.nlm.nih.gov/ncicgap.
National Cancer Institute, Cancer Genome Anatomy Project
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
/clone="IMAGE:3286237"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BE671554.1 GI:10032095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ccágrccaggagrga 439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Unpublished (1997)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Tumor Gene Index
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EST.
                                              65
                                                                                                                                                                                                           185
                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        425
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 5
BE671554
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMMENT
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EST 18-AUG-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CF341802
TGEST291431602.V1 TG CAST Tachyzoite CDNA Library TOXODJBABMB GONDII CDNA clone TGEST279/141602.V1 S similar to SW.CSF2 HUMAN P04141
GRANULOCYTE-MACROPHAGE COLONY-STIMULATING FACTOR FRECURSOR ; MRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   rcagaaargirigaccrccagagccgacctgccracagacccgccrgagcrgracaag 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241 cadedecriccededeadecreaceadereadadecreadecerrandadaredecadeeade 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                              Journal Louis Louis Louis Louis Louis Louis Louis Louis Louis Louis Louis Louis Louis Lamante, C., Clark A.G., Glanowski, S., Sackton, T.B., Hubisz, M.J., Fledel-Alon, A., Tamenbaum, D.M., Civello, D., White, T.J., Shinsky, J.J., Adams, M.D. and Cargill, M. Direct Submission Ky-2005) Celera Genomics, 45 West Gude Drive, Submitted (05-MAY-2005) Celera Genomics, 45 West Gude Drive, Rockville, MD 20850, USA
This sequence was made by sequencing genomic exons and ordering them based on alignment. Translation starts at the beginning of
                   of Humans and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 ATGIGGGGGGGAGGCTGCTGCTGCTGTGGGCCTGCAGCATCTCTGCACCCCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCTCGCCCAGCCCCAGCAGCAGCCCTGAGAGCATGTGAATGCCATCCAGGAGGCCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361 GAAAGTTTCAAAGGAAACCTGAAGGACTTTTCTGCTTGTCATCCCCTTGGACTGCTGGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TACAAGCAGCACTGCCCCCCCCCCCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                 435;
 and Cargill, M.
in the Genomes
                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                66; Indels
                                                                                                                                                                                                                                                                                                                                                                                                              DB 14;
                                                                                                                                                                                                                                                                                                                                                                                                              Score 329.4; DB 1
Pred. No. 1.6e-82;
0; Mismatches 66
White, T.J., Sninsky, J.J., Adams, M.D. A Scan for Positively Selected Genes Chimpanzees
                                                                                                                                                                                                                                                                 1. .435 /organism="Pan troglodytes" /mol_type="genomic DNA" /db_xref="taxon:9598"
                                                   PLoS Biol. 3 (6), E170 (2005)
                                                                                                                                                                                                                                                                                                                                                              /locus_tag="HC14003"
                                                                                                                                                                                                                                                         cocation/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GI:33831915
                                                                                                                                                                                                                                                                                                                                                                                                              75.7%;
84.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ccaerccaegaerea 435
                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 75.7
Best Local Similarity 84.8
Matches 369; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCAGCCCAGAAGTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Toxoplasma gondii
Toxoplasma gondii
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CF341802
CF341802.1
EST.
                                                                                                                                                                                                                                          alignment
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             sequence.
                                                                     15869325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                              source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RESULT 8
CF341802
LOCUS
DEFINITION
                                                                   PUBMED
REFERENCE
AUTHORS
                                                                                                                                                     TITLE
JOURNAL
                                                     JOURNAL
                                                                                                                                                                                                                                                            FEATURES
                                                                                                                                                                                                        COMMENT
                                                                                                                                                                                                                                                                                                                                                                                ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠ
                                                                                                                                                   /clone lib="NCI CGAP LU24"
//orde="Organ: lung; Vector: pT773D-PacI; Plasmid DNA from finote="Organ: lung; Vector: pT773D-PacI; Plasmid DNA from circles ware made in vitro. Following HAP purfication, this DNA was used as tracer in a subtractive hybridization reaction. The driver was PCR-amplified cDNAs from a pool of 5,000 clones made from the same library (cloneIDs 1414920-1417991 and 1520904-1523439). Subtraction by Bento Soares and M. Fatima Bonaldo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DQ053416
Pan troglodytes HC14003 gene, VIRTUAL TRANSCRIPT, partial sequence, genomic survey sequence.
                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                  100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       220
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Hominidae; Pan.
I (bases 1 to 435)
Nielsen,R., Bustamante,C., Clark,A.G., Glanowski,S., Sackton,T.B.,
Hubisz,M.J., Fledel-Alon,A., Tanenbaum,D.M., Civello,D.,
                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Par troglodytes (chimpanzee)
Pan troglodytes
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
Mammalia; Eutheria; Euarchontoglires; Primates; Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         101 CGCTCGCCCAGCCCCAGCAGCCCTGGGAGCATGTGAATGCCATCCAGGAGGCCCGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TACAAGCAGCACTGCCCTCCAACCCCGGAAACTTCCTGTGCAACCCAGATTATCACCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              41 ATGTGGCTGCAGAGCCTGCTGTTGGGCACTGTGGCCTGCAGCATCTCTGCACCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301 TACAAGCACCACCCCCCCCCCCCCCGGAACTTCCTGTGCAACCCAGATGATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                          Score 331; DB 7; Length 695;
Pred. No. 6.6e-83;
0; Mismatches 65; Indels
                                                                                                                   /tissue_type="carcinoid"
/lab_host="DH108"
                                                     organism="Homo sapiens"
   ity sequence stop: 456.
Location/Qualifiers
                                                                 /mol_type="mRNA"
/db_xref="taxon:9606"
/clone="IMAGE:3283742"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DQ053416.1 GI:66899363 GSS,
                                                                                                                                                                                                                                                                                                                                              76.1%;
85.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     461 CCAGTCCAGGAGTGA 475
                                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity 85.13
Matches 370; Conservative
                                       . 695
     High quality
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          221
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                341
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                        source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 7
DQ053416
LOCUS
                       FEATURES
                                                                                                                                                                                                                                                                                                                ORIGIN
```

원

જે

à

g 8 g ò g δ 유 ò g ઠે g ò 셤 420

452

```
EST 20-OCT-2000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  /clone="IMAGE:3886571"
/tissue type="large cell carcinoma, undifferentiated"
/lab_host="large cell carcinoma, undifferentiated"
/lab_host="DH10B (phage-resistant)"
/clone lib="NHH MGC 69"
/note="Organ: lung; Vector: pCMV-SPORT6; Site_1: NotI;
stpe="Organ: lung; Vector: pCMV-SPORT6; Site_1: NotI;
stpe="Sall; Cloned unidirectionally. Primer: Oligo dT.
sverage insert size 1.1 kb. Library constructed by Life
Technologies."
TACAAGCAGCACTGCCCCCCCCCCCCTGGAAACTTCCTGTGCAACCCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    63 CCAACCCAGCCCTGTCGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTGAG 122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61 cregecedadecendeadecendedecendadadecenteradandecentecendadadecededed 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi;
Mammalia, Eutheria, Euarchontoglires, Primates, Catarrhini;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Email: cgapbs-remail.nih.gov
Tissue Procurement: DCTD/DTP/Gazdar
cDNA Library Preparation: Life Technologies, Inc.
cDNA Library Arrayed by: The I.M.A.G.B. Consortium (LLNL)
DNA Sequencing by: Incyte Genomics, Inc.
clone distribution: MGC clone distribution information can be
found through the I.M.A.G.E. Consortium/LLNL at:
http://mage.llnl.gov
                                                                                                                                                                   393 GAAAGTTTCAAAGAGAACCTGAAGGACTTTCTGCTTGTCATCCCCTTTGACTGCTGGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     BE873976 895 bp mRNA linear EST 20-OCT-
601484045F1 NIH_MGC_69 Homo sapiens CDNA clone IMAGE:3886571 5'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hominidae, Homo.

1 (bases 1 to 895)
NIH-MGC http://mgc.nci.nih.gov/.
National Institutes of Health, Mammalian Gene Collection (MGC)
Unpublished (1999)
Contact: Robert Strausberg, Ph.D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3 Gregorideagnacerecriteringecaecregistraneagearecedeaeceaecee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 895;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               65; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              75.6%; Score 329; DB 7;
85.0%; Pred. No. 2.6e-82;
ive 0; Mismatches 65;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Homo sapiens"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     High quality sequence stop: 711.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         BE873976.1 GI:10322752
                                                                                                                                                                                                                                                                                                                                                                                                                                        421 CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  453 CCAGTCCAGGAGTGA 467
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1. .895
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           mRNA sequence.
BE873976
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches 368;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EST
                                                                                                                          301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 9
BE873976
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORIGIN
                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           /dlone="rggexarylaign."
/dlone="rggexarylaign.yi"
/dev stage="Tachyzoite"
/lab_host="ElectroTen Blue cells (Stratagene)"
/dlone lib="rg CAST Tachyzoite cDNA Library"
/clone lib="rg CAST Tachyzoite cDNA Library"
/clone lip="rg CAST Tachyzoite cDNA Library"
/clone lip="rg CAST Tachyzoite cDNA Library"
/clone lip="rg CAST Tachyzoite cDNA Size lip
BanHi; Site_2: EcoRi; The cDNA library was constructed by
Keliang Tang, and Robert Cole at Washington University.
CDNA was synthesized from poly(A)+ mRNA using the
template-switching PCR method (SMART CDNA Kit, BD
Biosciences): First strand cDNA was reverse transcribed
using the CDS III/3' primer and a 5' template switch
primer (Smart IV primer). The product of the first strand
synthesis was PCR amplified using the same primer set and
synthesis was PCR amplified using the same primer set and
strengments were digested with Sfil. The fragments were
size selected, ligated into a modified pBluescript vector
(obtained from Michael White, Montana State University)
containing directional Sfil sites, and electroporated into
ElectroTen Blue cells. Vector: Sfil sites were added to
the multiple cloning region of pBluescript SK+ between the
BanHi EcoRi states. The modified polylinker has the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Email: toxo@watson.wustl.edu
Contact David Sibley (toxoest@borcim.wustl.edu) for further
information relating to organism, libraries, or clone availability.
Seq primer: -40UP from Gibco.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GGCCGCCTCGGCCCACGGATCC3'where n=3.4 G nucleotides. WARNING: the library contains a small percentage of cDNAs derived from the human host cells. Library materials
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CGCTCGCCCAGCCCCAGCACGCCCTGGGAGCATGTGAATGCCATCCAGGAGGCCCGG 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               153 cercircia a de la contra del la contra del la contra del la contra del la contra del la contra de la contra de la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          213 readaharetrireacereceaeceaeceaecrecereceaeceeceecreeaecrerada 272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   following sequence: 5'GAATTCGGCCATTACGGCC(G)n-- insert--
                                                                                                      Tang, K., Cole, R., Fogarty, S., Sibley, L.D., Ajioka, J.A., White, M., Clifton, S., Pape, D., Martin, J., Wylie, T., Dante, M., Marra, M., Hilier, L., Kucaba, T., Theising, B., Bowers, Y., Gibbons, M., Ritter, E., Bennett, J., Franklin, C., Tsagareishvili, R., Ronko, I., Kennedy, S., Maguire, L., Waterston, R. and Wilson, R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             33 ATGTGGCTGCAGAGCCTGCTGCTCTTGGGCATGTGGCCTGCAGCATCTCTGCACCGGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Toxoplasma EST Project
Washington University School of Medicine
4444 Forest Park Parkway, Box 8501, St. Louis, MO 63108, USA
Tel: 314 286 1810
Fax: 314 286 1810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              provided by David Sibley, Washington University."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ;
0
            Eukaryota; Alveolata; Apicomplexa; Coccidia; Eimeriida;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            75.7%; Score 329.4; DB 5; Length 584; 84.8%; Pred. No. 1.8e-82; ive 0; Mismatches 66; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Toxoplasma gondii"
/mol type="mRNA"
/db_xref="taxon:5811"
                                                 Sarcocystidae; Toxoplasma.
1 (bases 1 to 584)
                                                                                                                                                                                                                                                                                                                                                       Unpublished (2001)
Contact: Clifton, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity 84.8
Matches 369; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                  TITLE
JOURNAL
                                                                                                                          AUTHORS
                                                                                     REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                   COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORIGIN
```

ö

ò 요 ò 유 ò 셤 ò 셤 ò

us-10-614-481-8.rst

엄

à

g

ઠે

ద

ò

g

ò

ઠે

```
CF370966.1 GI:34318212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421 CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ccagrccaggagrga 469
                                                                                                                                                                                                                                                                                                                                                                                                                            365; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                 Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CF370966
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     335 '
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 11
CF370966
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                    Best Loca
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ACCESSION
VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                    ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   /organism="Toxoplasma gondii"
/mol_type="mRNA"
/mol_type="mRNA"
/dow_tote="mRNA"
/dow_stage="Taxon:5811"
/clone="TgEGTzyj55612.y1"
/dev_stage="Tachyzoite"
/lab_host="ElectroTen Blue cells (Stratagene)"
/clone_lib="Tg CAST Tachyzoite cDNA Library"
/clone_lib="Tg CAST Tachyzoite"
/clone_lib="Tg CAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Toxoplasma gondii
SM Toxoplasma gondii
Sukaryota; Alveolata; Apicomplexa; Coccidia; Eimeriida;
Sarcocystidae; Toxoplasma.
E 1 (bases 1 to 585)
Tang, K., Cole, R., Fogarty, S., Sibley, L.D., Ajioka, J.A., White, M.,
Glifton, S., Pape, D., Martin, J., Wyle, T., Dante, M., Marra, M.,
Hillar, L., Kucaba, T., Franklin, C., Tasgareishvili, R., Ronko, I.,
Kennedy, S., Maguire, L., Waterston, R. and Wilson, R., Ronko, I.,
Toxoplasma EST Project
Unpublished (2001)
Contact: Clifton, S.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EST 27-AUG-2003
                                                                                                        240
                                                                                                                                                          302
                                                                                                                                                                                     362
                                                                                                                                                                                                                                                                                                   CAAGCAGCACTGCCTCCAACCCCGGAAACTTCCTGTGCAACCCAGATTATCACCTTTGA 360
                                                                                                                                                                                                                                                                                                                                                                        422
                                                                                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CF370833

TgESTzyj55e12.yl Tg CAST Tachyzoite cDNA Library Toxoplasma gondii cDNA clone TgESTzyj55e12.yl 5' similar to SW:CSF2 HUMAN P04141
GRANULOCYTE-MACROPHAGE COLONY-STIMULATING FACTOR PRECURSOR ;, mRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          for further
clone availability.
181 AGAAATGTTTGACCTCCCAGAGCCGACCTGCCTACAGAGCCCGGCTGTACAAGCA
                                                                                                                                                                                                                                                                                                                                                                   TGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAACA
                                                                                                                                                       CAAGCAGCACTGCCCCCCCCCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTCAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MO 63108,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Email: toxo@watson.wustl.edu
Contact David Sibley (toxoest@borcim.wustl.edu)
information relating to organism, libraries, or
Seg primer: -40UP_from gibco.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Toxoplasma EST Project
Washington University School of Medicine
444 Forest Park Parkway, Box 8501, St. Louis,
Fax: 314 286 1800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CF370833.1 GI:34318079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CF370833
                                                                                                                                                                                                                                                                                                                                                                     363
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           423
                                                                                                                                                                                                                                                                                                                    301
121
                                                    183
                                                                                                                                                          243
                                                                                                                                                                                                                                                                303
                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 10
CF370833
LOCUS
DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        source
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACCESSION
VERSION
KEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
```

the fragments were digasted with Sfil. The fragments were size selected, ligated into a modified ppluescript vector (obtained from Michael White, Wontana State University) containing directional Sfil sites, and electroporated into ElectroTen Blue cells. Vector: Sfil sites were added to the multiple cloning region of ppluescript Skt between the Bamil/EcoRI sites. The modified polylinker has the following sequence: 5'GAATTGGCCATTACGGC(G)n-. insert-GGCCGCTGGGCCACGGATCC3'where n=3-4 G nucleotides. WARNING: the library contains a small percentage of cDNAs derived from the human host cells. Library materials provided by David Sibley, Washington University." ö EST 27-AUG-2003 154 CF370966 592 bp mRNA linear EST 27-AUG-2003. GRSTST27-SUG-2003. GRSTST27/15 GLST TACAPYZOILE CDNA Library TOXOPLBERNE GONDLI CDNA Clone TGEST2/15 BL 12 15 'S SIMILAR TO SWICSF2 HUMAN P04141 GRANULOCYTE-MACROPHAGE COLONY-STIMULATING FACTOR FRECURSOR ; MRNA 240 300 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG 120 TACAAGCAGCACTGCCCCCCCCCCCCGGAAACTTCCTGTGCAACCCCAGATGATCACCTTC 360 TACAAGCAGCACTGCCCTCCAACCCCGGAAACTTCCTGTGCAACCCAGACTATCACCTTT 394 361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420 454 94 Sarcocystidae; Toxoplasma.

I (bases 1 to 592)
Tang,K., Cole,R., Fogarty,S., Sibley,L.D., Ajioka,J.A., White,M.,
Clifton,S., Pape,D., Martin,J., Wylie,T., Dante,M., Marra,M.,
Hillier,L., Kucaba,T., Theising,B., Bowers,Y., Gibbons,M.,
Kitter,E., Bennett,J., Franklin,C., Tasgareishvili,R., Ronko,I.,
Kennedy,S., Maguire,L., Waterston,R. and Wilson,R. 95 CGCTCGCCCAGCCCCAGCCCTGGGAGCATGTGAATGCCATCCAGGAGCCCCGG TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 35 ATGTGGCTGCAGAGCCTGCTGCTCTTGGGCACTGTGGCCTGCAGCATCTCTGCACCGCC 395 GAAAGTITCAAAGAGAAACCTGAAGGACTITCTGCTTGTCATCCCCTTTGACTGCTGGGAG Gaps ö Toxoplasma gondii Toxoplasma gondii Eukaryota; Alveolata; Apicomplexa; Coccidia; Eimeriida; Length 585; 70; Indels 74.3%; Score 323; DB 5; 83.9%; Pred. No. 1.2e-80; ive 0; Mismatches 70;

```
Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi; Mammalia; Butheria; Buarchontoglires; Primates; Catarrhini; Hominidae; Homo:

1 (bases 1 to 658)

2 Ebert, L., Heil, O., Hennig, S., Neubert, P., Partsch, E., Peters, M., Radelof, U., Schneider, D. and Korn, B.

Radelof, U., Schneider, D. and Korn, B.

Ruman Unigenese - RZPD3

Contact: Ina Rolfs

RZPD Deutsches Ressourcenzentrum fuer Genomforschung GmbH

Im Neuenheimer Feld 580, D-69120 Heidelberg, Germany

RZPD; IMAG998C104061.

RZPDI: IMAG98C104061.

RZPDI: M.A.G.E. cDNA Clone Collection;

Human UnigeneSet - RZPD3 (RZPDIIB No.972)

Http://www.rzpd.de/CloneCarts/Cgi-

bin/showi.b.pl.cgi/response7libNo-872 Contact: Ina Rolfs

RZPD Deutsches Ressourcenzentrum fuer Genomforschung GmbH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     /clone="INAGD998C104060; IMAGB:1601601"
/tissue_type="carcinoid"
/tab_nost="DH108"
/clone lib="NDI GAP Lub"
/clone lib="NDI GAP Lub"
/note="Organ: lung; Vector: pT713D-PacI; lst strand cDNA was prepared from neuroendocrine lung carcinoid, and was then primed with a Not I - 01490 (dT) primer.

Double-stranded cDNA was ligated to Eco RI adaptors (Pharmacia), digested with Not I and cloned into the Not I and Eco RI sites of the modified pT773 vector. Library is normalized. Library was constructed by Bento Soares and M.
                                                                                                                                                                                                                                                                                                                                                         EST 07-FEB-2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 73 CCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTGAGCCTTCTGAAC 132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        s98 cccagcaccaccaccreseascarereaarsccarccassaccccsccccccreaccas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   133 AACAGTAGTGACACTGCTGCTATCATGAAACAGTAGAAGTCGTCTCTGAAACGTTT 192
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This clone is available royalty-free from RZPD; contact RZPD (clone@rzpd.de) for further information. Seq primer: M13r, Primer sequence: TTTCACACAGGAACAGCTATGAC.
                                                                                                                                                                                                                                                                                                                                                         BX111836 CGAP_Lu5 Homo sapiens cDNA clone IMAGp998C104061;
IMAGE:160160], mRÑA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 658 Agceridentechentriagidedententración de Agenter de Agente de Contractor de Contractor de Agente Agente de Contractor de Agente Agen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               13 AACCTGCTTCTTCTGGGCACTGTGGTTTACAGCATGCCCGCACCCGCCAACCCAGC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length 658;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    65; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              73.3%; Score 319; DB 4;
larity 84.6%; Pred. No. 1.7e-79;
Conservative 0; Mismatches 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Heubnerweg 6, D-14059 Berlin, Germany
Tel: +49 30 32639 101
Fax: +49 30 32639 111
www.rzpd.de
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /organism="Homo sapiens"
/mol_type="mRNA"
/db_xref="taxon:9606"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Fatima Bonaldo.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BX111836.1 GI:27837278
                                      421 CCAGCCCAGAAGTAA 435
                                                                                                                            455 CCAGTCCAGGAGTGA 469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens (human)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1. .658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Local Similarity
les 358; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          BX111836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                         LOCUS
                                                                                                                                                                                                                                                              RESULT 12
BX111836/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VERSION
KEYWORDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ORIGIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Email: toxo@watson.wustl.edu
contact David Sibley (toxoest@borcim.wustl.edu) for further
information relating to organism, libraries, or clone availability.
Seg primer: -400P from Gibco.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            155 CGTCTCCTGAACCTGAGTAGAGACACTGCTGCTGAGTGAATGATATAGTAGAAGTCATC 214
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301 TACAAGCACTGCCCCCCCACCCTGGAACTTCCTGTGCAACCCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 361 AAAAGTITCAAAAAGAACCIGAAGGAITITCIGITIGAGAICCCGITIGACTGCIGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     95 cécrceccadececadedes de des de consecuencia de la contra de contra de contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra del la contra del la contra del la contra del la contra del la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra de la contra del la contra del la contra del la contra de la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la contra del la c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         395 GAAAGTITCAAAGAGAACCTGAAGGACTITCTGCTTGTCATCCCCTTTGACTGCTGGAG 454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              275 CAGGGCCTGCGGGGCAGCCCCACCAAGCTCAAGGGCCCCTTGACCATGATGGCCACCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    335 TACAAGCAGCACTGCCCTCCAAACCTTCCTGTGCAACCCCAGACTATCACCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        35 ATGTGGATGCAGAGCCTGCTGCTCTTGGGCACTGTGGCCTGCAGCATCTCTGCACCCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   215 TCAGAAATGTTTGACCTCCAGGAGCCGACCTGCCTACAGACCCGCCTGGAGCTGTACAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Gaps
                                                                                                                                 usa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                provided by David Sibley, Washington University."
         Toxoplasma EST Project
Washington University School of Medicine
Washington University School of Medicine
Tel: 314 286 1800
Fax: 314 286 1810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 323; DB 5; Length 592;
Pred. No. 1.2e-80;
0; Mismatches 70; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1. .592
/organism="Toxoplasma gondii"
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local Similarity 83.9%;
Matches 365; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURES
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORIGIN
```

ö

599

a

ઠે

g

ò

원

δ

g

8

g δ 셤 ò

```
CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              clone="hb05e10"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BM539160.1 GI:18820855
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Canis familiaris (dog)
Canis familiaris
                                                                                                                                                                                                                                                                                                                                               CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                              1 (bases 1 to 572)
                                                                                                                                                                                                                                                                                                                                               421
                          11
                                                        121
                                                                                                              181
                                                                                                                                                                       241
 61
                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                             DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TITLE
JOURNAL
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 14
BM539160
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FEATURES
                      셤
                                                     ઠે
                                                                            셤
                                                                                                       ò
                                                                                                                                      ద
                                                                                                                                                                       ò
                                                                                                                                                                                              셤
                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   USDA, ARS, US Meat Animal Research Center
FOR DO Box 166, Clay Center, NE 68933-0166, USA
Tel: 402 762 4366
Fax: 402 762 4366
Fax: 402 762 4360
Fax: 402 762 4390
Single pass sequencing. Bases called with phred v0.020425.c and trimmed with the aid of the trim_alt option. Vector identified with cross match v0.990329.
Flate: FOX8072 row: H column: 12
Seq primer: GTAATACGACTCACTATAGGG.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi, Mammalia, Eutheria, Laurasiatheria, Cetartiodactyla, Ruminantia, Pecora; Bovinae, Bos.

1. (baees 1 to 561)
Smith, T.P.L., Roberts, A.J., Echternkamp, S.E., Chitko-McKown, C.G., Wray, J.E. and Keele, J.W.
A second set of bovine ESTs from pooled-tissue normalized libraries Unpublished (2003)
Contact: Smith TPL
                                                                                                                                                                                                                                                                                                                                                             EST 26-MAR-2003
                                                        419
                                                                                   312
                                                                                                  TGCCCCCCCCAGGAAACTTCCTGTGCAACCCAGATGATCACCTTCAAAAGTTTCAAA 372
                                                                                                                                                          373 AAGAACCIGAAGGAITITICIGITITGAGAICCCGITITGACTGCTGGAAGCCAGCCCAGAAG 432
                                                                                                                                                                                                                               239
CTGAGTAGAGACACTGCTGCTGAGATGAATGAAACAGTAGAAGTCATCTCAGAAATGTTT 479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                96
                                           478 GACCTCCAGGAGCCGACCTGCCTACAGACCCGCCTGGAGCTGTACAAGCAGGGCCTGGG
                                                                                                                                                                                                                    298 GAGAACCTGAAGGACTTTCTGCTTGTCATCCCCTTTGACTGCTGGGAGCCAGTCCAGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    /notes "Vector: pcDNA3.1; Site 1: EcoRI; Site 2: NotI; Library made with RNA pooled from multiple tissues including liver; lung, hypothalamus, pituitary, and nanentalendemerium."
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          3,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 4; Length 561;
                                                                                                                                                                                                                                                                                                                                                             CB457551 561 bp mRNA linear 714908 MARC 6BOV Bos taurus cDNA 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         63;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            73.1%; Score 318.2; DB 4 84.8%; Pred. No. 2.7e-79; ive 0; Mismatches 63

    .561
    /organism="Bos taurus"
/mol_type="mRNA"
    /db_xref="taxon:9913"

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              tissue type="pooled"
/lab_host="DH10B"
/clone_lib="MARC 6BOV"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     placenta/endometrium.
                                                                                                                                                                                                                                                                                                                                                                                                 CB457551.1 GI:29263933
EST.
                                                                                                                                                                                                                                                                                                                                                                                                                                  Bos taurus (cattle)
Bos taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                          TAA 435
                                                                                                                                                                                                                                                                                      TGA 236
                                                                                                                                                                                                                                                                                                                                                                                           CB457551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Simi
Matches 369;
                                                                                                                                                                      358
                                                                                  253
                                                                                                                                           313
                                                                                                                                                                                                                                                          433
                                                                                                                                                                                                                                                                                      238
                          193
                                                                                                                                                                                                                                                                                                                             RESULT 13
CB45751
LOCUS
DEFINITION
ACCESSION
VERSION
VERSION
VERSION
CEYWORDS
SOURCE
ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE
JOURNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURES
                                                  g
                                                                                                        g
                                                                                                                                                                   g
                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                   요
                         ò
                                                                          õ
                                                                                                                                        ò
                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠ
```

```
hboselo.gl Canis cDNAs from testes cells Canis familiaris cDNA clone hboselo 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /tissue type="restes"
/clone_lbh="Canis CDNAs from testes cells"
/clone_lbh="Catoris CDNAs from testes cells"
/note="Vector: Lambda Zap II; The library was produced by
Greg Hannon and Raymond Preston (Cold Spring Harbor
Laboratory). This library is oligo(dT) primed using
stratagene zap CDNA synthesis kit. It was made from dog
testes. Please contact Greg Hannon (hannon@cshl.org) with
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Eukaryota, Metazoa, Chordata, Craniata, Vertebrata, Euteleostomi,
Mammalia, Eutheria, Laurasiatheria, Carnivora, Fissipedia, Canidae,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                        136
                                                                                                                                                                                                                                                TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                     120
                                                                                                                      254 AACGGCCTGCAGGGCAGCCTCACTAGTCTCATGGGCTCCTTGACCATGATGGCCACCAC 313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                314 TACGAGAAACACTGCCCACCCCGGAAACTTCCTGTGGAACCTGAGTTTATCAGCTTC 373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                L. (Dates 1 to 7.7.)

S. O'Shaughnessy, N.L., McCombie, W.R., Baker, J.P., Balija, V., Cunnius, D., Dedhia, N.N., de la Bastide, M., Katzenberger, F., Kiroffeff, K.A., Miller, B., Muller, S., Nascimento, L.U., Palmer, L., Santos, L., Shah, R.S., Spiegel, L.A., Zutavern, T., Preston, R. and Hannon, G.J.

Expressed sequence tags from Canis familiaris (dog) (2002)
Unpublished (2002)
Contact: W. Richard McCombie
Lita Annenberg Hazen Genome Sequencing Center
Cold Spring Hazen Genome Sequencing Center
Cold Spring Harbor, NY 11724, USA
Tel: 516 367 8884
Fax: 516 367 8884
Fax: 516 367 8884
Fax: 516 367 8874
Email: mccombie@cshl.org
Plate: hho5 row: e column: 10
Seq primer: -21Ml3UnivRev
High quality sequence stop: 572.
                                                                                                                                                              CGCCCACCCAACACTGCCACCCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AAAAGITTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Canis familiaris"
/mol_type="mRNA"
/db_xref="taxon:9615"
```

us-10-614-481-8.rst

```
61
                                                                                                                                                                                                                                                                                                             139
                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                Query Match
                                                                                                                                                                                                                                                               79
                                                                                                                         ORIGIN
                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                                                                                                                                д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                요
                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                           ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          672 bp mRNA linear EST 01-OCT-2003
CES009198 Bos taurus muscle cDNA library Bos taurus cDNA clone
CCL009198 5', mRNA sequence.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Wang, Y.H., Byrne, K.A., Reverter, A., Harper, G.S., Taniguchi, M., McWilliam, S.M., Mannen, H., Oyama, K. and Lehnert, S.A.
Transcriptional profiling of skeletal muscle tissue from two breeds
                                                       ö
                                                                                                                         120
                                                                                                                                                148
                                                                                                                                                                       180
                                                                                                                                                                                             208
                                                                                                                                                                                                                    240
                                                                                                                                                                                                                                                                 300
                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                    388
                                                                                                                                                                                                                                                                                                                                                        269 gadodecriecadederacercaceaecereaagaarecerraaceargaredecaareae 328
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Functional Genomics Lab
SIRO Livestock Industries
Level 5, Queensland Bioscience Precinct, University of Queensland,
306 Carmody Road St. Lucia QLD Australia
                                                                             9
                                                                                                  88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Bukaryota, Metazoa; Chordata; Craniata; Vertebrata; Buteleostomi;
Mammalla; Butheria; Laurasiatheria; Cetartiodactyla; Ruminantia;
Pecora; Bovidae; Bovinae; Bos
1 (bases 1 to 672)
                                                                                                                                     61 CGCCAACCCAGCCCTGTCACTCGGCCCTGCCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                       TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA
                                                                                                                                                                                                                                                                  TACAAGCAGCACTGCCCCCCCCCCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTC
                                                                             Gaps
                                                       ..
                                 Length 572;
                                                       Indels
                                                      73;
                                 DB 2;
any library related inquiries."
                               Score 318.2; DB 2
Pred. No. 2.8e-79;
0; Mismatches 73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mamm. Genome 16 (3), 201-210 (2005)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /organism="Bos taurus"
/mol_type="mRNA"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Tel: 07 3214 2445
Fax: 07 3214 2480
Email: Sigrid.Lehnert@csiro.au
Plate: 08 row: D column: 01.
Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Contact: Dr Sigrid Lehnert
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CF614774.1 GI:37240821
                                73.1%;
                                                                                                                                                                                                                                                                                                                                                                                                         CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                               CCAGTCAAGAAGTGA 463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          taurus (cattle)
                                             Best Local Similarity 83.2
Matches 362; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                .672
                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Bos taurus
Bos taurus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  of cattle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       15834637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EST
                                                                                                                                                                                              149
                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                               449
                                                                                                                                                                                                                     181
                                                                                                     29
                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                         421
                                 Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DEFINITION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 15
CF614774
LOCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         JOURNAL
PUBMED
COMMENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REFERENCE
AUTHORS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ACCESSION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VERSION
KEYWORDS
SOURCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FEATURES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE
          ORIGIN
                                                                                                                                                                                                                                                                                   a
                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                             a
a
                                                                                                                                                                                        셤
                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                         8
                                                                               ઠ
                                                                                               Op
                                                                                                                      ò
                                                                                                                                          Dp
                                                                                                                                                                      8
```

```
/tissue_type="Longissimus dorsi muscle"
/dev_tadege="Young Adult"
/lab host="XLI-BlueWRF'strain"
/clone_lib="Bos taurus muscle cDNA library"
/note="Yogan: skeletal muscle; Vector: Uni-ZAPXR; Site_l:
EcoRI; Site_2: Xho I; Library made from skeletal muscle of a 14 month old Angus steer."
                                                                                                                                                                                                                                                                                               ij
                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         375
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301 TACAAGCAGCACTGCCCCCCCCCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           435
                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                              78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 196 TCTGAAAAGTTTGACTCCCAGGAACCAACGTGCCTGCAGACTCGCCTGAAGCTGTACAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          316 TACGAGAAACACTGCCCACCCCGGGAAACTTCCTGTGGAACCCAGTTTATCAGCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         19 ATGTGGNNGNAGAACCTGCTTCTCCTGGGCACTGTGGTCTGCAGCTTCTCCGCACCTACT
                                                                                                                                                                                                                                                                                                                                                                                                                        CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ceccacccaacacreccacceccreecagcareregareccarcaageageccre
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGCCTTCTGAACCACAGCAGTGACACTGATGCTGTGATGATGACAC---AGAAGTCGTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                               3;
                                                                                                                                                                                                                                                   Length 672;
                                                                                                                                                                                                                                                                                           66; Indels
                                                                                                                                                                                                                                                 72.5%; Score 315.2; DB 5;
84.1%; Pred. No. 2.1e-78;
ive 0; Mismatches 66;
/db_xref="taxon:9913"
/clone="CCL009198"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Search completed: May 26, 2006, 03:43:10 Job time : 3398 secs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421 CCAGCCCAGAAGTAA 435
                                           /sex="male"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               436 CCAGCCCAGAAGTGA
                                                                                                                                                                                                                                                                            Best Local Similarity 84.1
Matches 366; Conservative
```

```
Wed May 31 11:49:39 2006
```

```
US-09-589-460-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 119, App
Sequence 111, App
Sequence 111, App
Sequence 121, App
Sequence 121, App
Sequence 10, App
Sequence 10, Appl
Sequence 9, Appli
Sequence 9, Appli
Sequence 8, Appli
Sequence 8, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 122, App
Sequence 123, App
Sequence 122, App
Sequence 123, App
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 2706, Ap
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 8, Appli
                                                                                                     (without alignments)
4963.002 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 122,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            /EMC_Celerra_SIDS3/ptodata/2/ina/backfiles1.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Description
                                                                                                                                                                                                                                                                                                                                                                                                                           / EMC_Celerra_SIDS3/ptodata/2/ina/1_COMB.seq:*
/ EMC_Celerra_SIDS3/ptodata/2/ina/5_COMB.seq:*
/ EMC_Celerra_SIDS3/ptodata/2/ina/6_COMB.seq:*
/ EMC_Celerra_SIDS3/ptodata/2/ina/6_COMB.seq:*
/ EMC_Celerra_SIDS3/ptodata/2/ina/H_COMB.seq:*
/ EMC_Celerra_SIDS3/ptodata/2/ina/H_COMB.seq:*
/ EMC_Celerra_SIDS3/ptodata/2/ina/H_COMB.seq:*
/ EMC_Celerra_SIDS3/ptodata/2/ina/PGTUS_COMB.seq:*
/ EMC_Celerra_SIDS3/ptodata/2/ina/PGTUS_COMB.seq:*
/ EMC_Celerra_SIDS3/ptodata/2/ina/PDCOMB.seq:*
/ EMC_Celerra_SIDS3/ptodata/2/ina/PDCOMB.seq:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                           1 atgtggctgcagaacctgct......ggaagccagcccagaagtaa
                                                                                    May 26, 2006, 01:01:29; Search time 164 Seconds
GenCore version 5.1.8 Copyright (c) 1993 - 2006 Biocceleration Ltd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-589-460-8
US-09-322-409-119
US-09-322-409-119
US-09-451-527-121
US-10-262-439-121
US-10-262-439-121
US-08-130-979A-10
US-08-130-979A-10
US-08-436-890-10
US-08-436-890-10
US-08-431-594A-9
US-09-617-594A-9
US-09-617-594A-9
US-09-617-594A-9
US-09-617-594A-9
US-09-617-594A-9
US-09-617-594A-9
US-09-826-025-8
US-09-826-025-8
US-09-826-025-8
US-09-826-025-8
US-09-826-025-8
US-09-826-025-8
US-09-826-025-8
US-09-826-025-8
US-09-826-025-8
US-09-826-025-8
US-09-826-025-8
US-09-826-025-8
US-09-826-025-8
US-09-826-025-8
US-09-826-025-8
US-09-826-025-8
US-09-826-025-8
US-09-826-025-8
US-09-826-032-032-8
US-09-826-032-032-8
                                                                                                                                                                                                                                                                               Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                 1403666 segs, 935554401 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUMMARIES
                                                                                                                                                                                                                                                                                                                                                      Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                         OM nucleic - nucleic search, using sw model
                                                                                                                                                                                                      IDENTITY NUC
Gapop 10.0 ; Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                   Issued Patents NA:*
                                                                                                                                                                                                                                                                                                          Minimum DB seq length: 0
Maximum DB seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB
                                                                                                                                             US-10-614-481-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query
                                                                                                                                                                                                                                                                                                                                                                                                                               Perfect score:
                                                                                                                                                                                                      Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     329.6
329.6
329.6
329.6
329.6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3332.6
3332.6
3332.6
331.2
331.2
                                                                                                                                                                                                                                                                                                                                                                                                                   Database :
                                                                                                                                                                              Sequence:
                                                                                                                                                                                                                                                   Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            22
22
23
23
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ŏ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   υ
```

Sequence 1, Appli	US-09-146-283-1	7	1588	68.1	296.4	45
Patent No. 5229496	5229496-1	10	661	69.3	301.6	44
Patent No. 5391485	5391485-2	10	099	69.3	301.6	43
Sequence 275, App	US-09-976-594-275	m	1011	72.4	315	42
Sequence 8, Appli	US-08-902-513-8	~	809	73.1	318.2	41
Sequence 6, Appli	US-08-902-513-6	~	809	73.1	318.2	40
Sequence 8, Appli	US-08-259-696B-8	~	808	73.1	318.2	39
Sequence 6, Appli	US-08-259-696B-6	~	809	73.1	318.2	38
Sequence 4, Appli	US-08-750-128-4	~	696	75.0	326.4	37
Sequence 34, Appl	US-10-188-056-34	m	435	75.4	327.8	36
Sequence 7, Appli	US-08-750-128-7	~	945	75.4	328	35
Sequence 3, Appli	US-09-310-842-3	m	1318	75.7	329.4	34
Sequence 1195, Ap	US-09-016-434-1195	ო	756	75.7	329.4	33
٠,	US-09-663-667-191	٣	496	75.7	329.4	32
Sequence 191, App	US-09-535-370-191	ო	496	75.7	329.4	31
Sequence 191, App	US-08-460-736-191	ო	496	75.7	329.4	30
Sequence 191, App	US-08-458-356-191	~	496	75.7	329.4	29
Sequence 191, App	US-08-184-009-191	7	496	75.7	329.4	28
Sequence 32, Appl	US-10-188-056-32	٣	435	75.7	329.4	27
Sequence 10, Appl	US-09-555-165-10	m	1032	75.8	329.6	26
Sequence 8, Appli	US-09-555-165-8	ო	1032	75.8	329.6	25
Sequence 123, App	US-10-262-439-123	'n	432	75.8	329.6	c 24

## ALIGNMENTS

ഗ ശ

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 ATGTGGCTGCAGAACCTGCTTCTTCTGGGCACTGGGTTTACAGCATGCCGGACCCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAACGTGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181 TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                 Length 435;
                                                                                                                                                                                                                                                                                                                                                                                              100.0%; Score 435; DB 3; Length 4 100.0%; Pred. No. 5.2e-118; ative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                         NAME/KEY: CDS
J. LOCATION: (1)..(432)
J. OTHER INFORMATION: coding sequence of equine GM-CSF gene
US-09-589-460-8
Sequence 8, Application US/09589460
Patent No. 6645740
GENERAL INFORMATION:
APPLICANT: Bublot, et al.
TITLE OF INVENTION: Equine GM-CSF
TILE REFERENCE: 454313-2334.1
CURRENT APPLICATION NUMBER: US/09/589,460
CURRENT FILING DATE: 1090-06-07
PRIOR PILING DATE: 1999-06-10
NUMBER OF SEQ ID NOS: 9
SOFTWARE: PatentIn version 3.0
SEQ ID NO 8
LENGTH: 435
                                                                                                                                                                                                                                                                                                                                                                                              Query Match 100.
Best Local Similarity 100.
Matches 435; Conservative
                                                                                                                                                                                                                                                      TYPE: DNA
ORGANISM: Equine sp.
FEATURE:
```

g

ò

g

ò

g

ò

```
61 CGCCAACCCAGCCTGTCACTCGGCCAGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          rcroadarcriricacccroadcacccadarcccroccacaccrcaccradaccrcradaccrcradaccrcradaccrc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            375 AGTTCACCCAGCTCTGTCACTCGGCCTGGCAACACGTGGATGCCATCAAGGAGGCCCTG 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TACAAGCAGCACTGCCCCCCCCCCCGGAAACTTCCTGTGCAACCCCAGATGATCACCTTC 360
                                                                                                                                                                                APPLICANT: Sim, Gek-Kee
APPLICANT: Sim, Gek-Kee
APPLICANT: Sim, Gek-Kee
APPLICANT: Yang, Shumin
APPLICANT: Dreitz, Matthew J.
APPLICANT: Dreitz, Matthew J.
APPLICANT: Wonderling, Ramani S.
TITLE OF INVENTION: CANINE AND FELINE IMMUNOREGULATORY PROTEINS, NUCLEIC
TITLE OF INVENTION: ACID MOLECULES, AND USES THEREOF
FILE REFERENCE: IM-2-C1
CURRENT PELLING DATE: 1999-05-28
EARLIER APPLICATION NUMBER: 60/087,306
EARLIER APPLICATION NUMBER: 60/087,306
EARLIER TILNG DATE: 1999-05-29
NUMBER OF SEQ ID NOS: 154
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          135 TACAAGCAGCACTGCCCCTTACTCCGGAAACGCCCTGTGAAACCCAGACTATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 ATGIGGCIGCAGAACCIGCTICTICIGGCACTGTGGTTTACAGCAIGCCCGCACCCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          76.5%; Score 332.6; DB 3; Length 444; 85.3%; Pred. No. 6.9e-88; ive 0; Mismatches 64; Indels 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                , Sequence 119, Application US/09451527; Patent No. 6482403
GENERAL INFORMATION:
APPLICANT: Sim, Gek-Kee
                                                                                                                                                ; Sequence 121, Application US/09322409; Patent No. 6471957
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421 CCAGCCCAGAAGTAA 435
                                                        430 CCAGACCAGAAGTAA 444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 85.3
Matches 371; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: DNA
CORGANISM: Felis catus
US-09-322-409-121
                                                                                                                                  US-09-322-409-121/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 4
US-09-451-527-119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQ ID NO 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    8
                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: Sim, Gek-Kee
APPLICANT: Sim, Gek-Kee
APPLICANT: Sim, Gek-Kee
APPLICANT: Sim, Gek-Kee
APPLICANT: Brain, Sim, Gek-Kee
APPLICANT: Droitz, Matthew J.
APPLICANT: Wonderling, Ramani S.
TITLE OF INVENTION: CANINE AND FELINE IMMUNOREGULATORY PROTEINS, NUCLEIC
TITLE OF INVENTION: ACID MOLECULES, AND USES THEREOF
FILE REFERENCE: IM-2-C1
CURRENT APPLICATION NUMBER: US/09/322,409
CURRENT APPLICATION NUMBER: 60/087,306
EARLIER FILING DATE: 1998-05-29
NUMBER OF SEQ ID NOS: 154
SOOTHWARE: PARCHILIN Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    369
360
                                                                                                                  420
                                                                                                                                    CGCCAACCCAGCCCTGTCACTCGGCCTGGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        190 TCTGAAATGTTTGACCCTGAGGAGCCGAAATGCCTGCAGACTCACCTAAAGCTGTACGAG 249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TACAAGCAGCACTGCCCCCCCCCCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        70 AGTICACCCAGCICICICACICGGCCCIGGCAACACGIGGAIGCCAICAAGGAGGCCCIG 129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAAAATITICAAAGAATICIGAAGGATITITICIGITITAACAACCCCITIGACIGCIGGGGA 429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                69
                                                            301 TACAAGCAGCACTGCCCCCCCCCGGAAACTTCCTGTGCAACCCCAGATGATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 76.5%; Score 332.6; DB 3; Length 444; Best Local Similarity 85.3%; Pred. No. 6.9e-88; Matches 371; Conservative 0; Mismatches 64; Indels 0
                                                                                                                                                                                                                                                                                                                            Sequence 119, Application US/09322409 Patent No. 6471957
                                                                                                                                                                                                                  CCAGCCCAGAAGTAA 435
                                                                                                                                                                                          CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM: Felis catus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; LOCATION: (10)..(441)
US-09-322-409-119
                                                                                                                                                                                                                                                                                          RESULT 2
US-09-322-409-119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME/KEY: CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                        361
                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              370
                                                                                                                  361
                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: DNA
```

ò g ò g Š g ઠે 엄 ò g ò ద ઠે ö

```
CURRENT FILING DATE: 1999-12-01
                                                                                                                                   TYPE: DNA
CORGANISM: Felia catus
US-09-451-527-121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 6
US-10-262-439-119
                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            15
                                                                                                                                                                                                                                                                                        유
                                                                                                                                                                                                                                                                                                                      8
                                                                                                                                                                                                                                                                                                                                                  요
                                                                                                                                                                                                                                                                                                                                                                                  ઠે
                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                             ઠે
         APPLICANT: Dreltz, Matthew J.
APPLICANT: Dreltz, Matthew J.
APPLICANT: Wonderling, Ramani S.
TITLE OF INVENTION: CANIBE AND FELINE IMMUNOREGULATORY PROTEINS, NUCLEIC
TITLE OF INVENTION: ACID MOLECULES, AND USES THEREOF
FILE REFERENCE: IM-2-C2
CURRENT PAPLICATION NUMBER: 09/451,527
CURRENT FILING DATE: 1999-12-01
EARLIER FILING DATE: 1999-05-28
EARLIER FILING DATE: 1998-05-28
EARLIER FILING DATE: 1998-05-29
NUMBER OF SEQ ID NOS: 174
SOFTWARE: Patentin Ver. 2.0
SOFTWARE: Patentin Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               70 AGTTCACCCAGCTCTGTCACTCGGCCCTGGCAACACGCGGGTGGATGCCATCAAGAAGGCCCTG 129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TACAAGCAGCACTGCCCCCCCCCAGGAAACTTCCTGTGCAACCCAGATGATGACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  310 TACAAGCAGCACTGCCCCCTTACTCCGGAAACGCCCTGTGAAACCCCAGACTATCACCTTC 369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAAAATTTCAAAGAATCTGAAGGATTTTCTGTTTAACAACCCCTTTGACTGCTGGGGA 429
                                                                                                                                                                                                                                                                                                                                                                                                                                               69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 121, Application US/09451527
Sequence 121, Application US/09451527
Patent No. 6492403
GENERAL INFORMATION:
APPLICANT: Sim, Gek-Kee
APPLICANT: Yang, Shumin
APPLICANT: Vang, Shumin
APPLICANT: Wonderling, Ramani S.
TITLE OF INVENTION: CANINE AND FELINE IMMUNOREGULATORY PROTEINS, NUCLEIC
TITLE OF INVENTION: ACID MOLECULES, AND USES THEREOF
FILE REFERENCE: IM-2-C2
CURRENT APPLICATION NUMBER: US/09/451,527
                                                                                                                                                                                                                                                                                                                                                                                                                                   TCTGAAATGTTTGACCCTGAGGGGCCGAAATGCCTGCAGACTCACCTAAAGCTGTACGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CGCCAACCCAGCCCTGTCACTCGGCCCTGGCACCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                  Gape
                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                        Length 444;
                                                                                                                                                                                                                                                                                                                                                                                   IndelB
                                                                                                                                                                                                                                                                                                                                                     Query Match 76.5%; Score 332.6; DB 3; Best Local Similarity 85.3%; Pred. No. 6.9e-88; Matches 371; Conservative 0; Mismatches 64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCAGACCAGAAGTAA 444
                                                                                                                                                                                                                                             TYPE: DNA
ORGANISM: Felis catus
                                                                                                                                                                                                                                                                                        ; NAME/KEY: CDS
; LOCATION: (10)..(441)
US-09-451-527-119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-451-527-121/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       370
                                                                                                                                                                                                                                                                                                                                                                                                                                                10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    430
                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ઠે
```

```
GENERAL INFORMATION:
APPLICANT: Sim, Gek-Kee
APPLICANT: Sim, Gek-Kee
APPLICANT: Sim, Gek-Kee
APPLICANT: Dreitz, Matthew J.
APPLICANT: Dreitz, Matthew J.
APPLICANT: Dreitz, Matthew J.
APPLICANT: Wonderling, Ramani S.
TITLE OF INVENTION: ACAINE MAD FELINE INMUNOREGULATORY PROTEINS, NUCLEIC
TITLE OF INVENTION: ACID MOLECULES, AND USES THEREOF
FILE REFERENCE: IM-2-C2
CURRENT APPLICATION NUMBER: US/09/451,527
CURRENT APPLICATION NUMBER: US/09/451,527
PRIOR FILING DATE: 1999-12-01
PRIOR FILING DATE: 1999-12-03
PRIOR FILING DATE: 1999-05-28
PRIOR FILING DATE: 1998-05-29
NUMBER OF SEQ ID NOS: 174
SEQ ID NO 119
                                                                                                                                                                                                                                                                                                                                                                                                                                       376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                255 rerigaaarerrigaecergaggageegaarigeergeagaereaeeraaagergraeag 196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  195 CAGGGCCTACGGGGCAGCCTCATCAGCTCAAGGAGCCTCTGAGAATGATGGCCAACCAT 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAAAGTITICAAAAAGAACCIGAAGGATTTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16
                                                                                                                                                                                                                                                                                                                                                                                                                      375 AGTTCACCCAGCTCTGTCACTCGGCCCTGGCAACACGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TACAAGCAGCACTGCCCCCCCCAGGAACTTCCTGTGCAACCCAGATGATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                          1 ATGTGGCTGCAGAACCTGCTTCTTGGGCACTGTGGTTTACAGCATGCCCGCACCC
                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                             .
0
                                                                                                                                                                                                                                                                                             Length 444;
                                                                                                                                                                                                                                                                                        Score 332.6; DB 3; Length
Pred. No. 6.9e-88;
0; Mismatches 64; Indels
EARLIER APPLICATION NUMBER: 09/322,409
EARLIER FILING DATE: 1999-05-28
EARLIER APPLICATION NUMBER: 60/087,306
EARLIER FILING DATE: 1998-05-29
NUMBER OF SEQ ID NOS: 174
SOFTWARE: PATENTIN Ver. 2.0
SEQ ID NO 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; Sequence 119, Application US/10262439
; Patent No. 7026139
                                                                                                                                                                                                                                                                                             76.5%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ccagaccagaagraa 1
                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 85.3
Matches 371; Conservative
```

```
121
                                                                                                                                                                                                                                                             181
                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                             ò
                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                         õ
                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 121, Application US/10262439
; Sequence 121, Application US/10262439
; Patent No. 7026139
; GENERAL INFORMATION:
; APPLICANT: Sin, Gek-Kee
; APPLICANT: Vang, Shumin
; APPLICANT: Wonderling, Ramani S.
; TITLE OF INVENTION: CANINE AND FELINE IMMUNOREGULATORY PROTEINS, NUCLEIC
; TITLE OF INVENTION: ACID MOLECULES, AND USES THEREOF
; TITLE OF INVENTION: ACID MOLECULES, AND USES THEREOF
; TITLE OF INVENTION: ACID MOLECULES, AND USES THEREOF
; TITLE OF INVENTION: ACID MOLECULES, AND USES THEREOF
; TITLE OF INVENTION: 000-00-00
; FILE REFERENCE: 109-00-00-00
; PRIOR PILING DATE: 1999-12-01
; PRIOR FILING DATE: 1999-12-01
; PRIOR FILING DATE: 1999-05-28
; NUMBER OF SEQ ID NOS: 174
; SOFTWARE: PARLENT VER 174
; SOFTWARE: PARLENT VER 174
; SOFTWARE: PARLENT VER 174
; SOFTWARE: PARLENT VER 174
                                                                                                                                                                                                                                                             61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                             181 TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                250 CAGGGCCTACGGGGCAGCCTCATCAGCCTCAAGGAGCCTCTGAGAATGATGGCCAACCAT 309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301 TACAAGCAGCACTGCCCCCCCCCCCGGAACTTCCTGTGCAACCCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             70 AGTTCACCCAGCTCTGTCACTCGGCCCTGGCAACACGTGGATGCCATCAAGGAGGCCCTG 129
                                                                                                                                                                                                                              69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               310 TACAAGCAGCACTGCCCCTTACTCCGGAAACGCCCTGTGAAACCGAGACTATCACCTTC
                                                                                                                                                                                                                              Gaps
                                                                                                                                                             ö
                                                                                                                           Score 332.6; DB 5; Length 444;
Pred. No. 6.9e-88;
0; Mismatches 64; Indels 0
                                                                                                                           Query Match
Best Local Similarity 85.3%;
Matches 371; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCAGCCCAGAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCAGACCAGAAGTAA 444
           TYPE: DNA
ORGANISM: Felis catus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; TYPE: DNA
; ORGANISM: Felis catus
US-10-262-439-121
                                                        ) NAME/KEY: CDS
; LOCATION: (10)..(441)
US-10-262-439-119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-10-262-439-121/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO 121
LENGTH: 444
LENGTH: 444
                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                              FEATURE
                                                                                                                                                                                                                             요
                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                             ₹
                                                                                                                                                                                                                                                                                                                                                                                          ò
```

```
Sequence 10, Application US/08133979A
Patent No. 5589582
GENERAL INFORMATION:
APPLICANT: Hawley, Robert J.
APPLICANT: Rosa, Margaret D.
APPLICANT: Rosa, Margaret D.
APPLICANT: Monroy, Rodney L.
APPLICANT: APPLICANT: Benice Z.
TITLE OF INVENTION: Enhancement of Xenograft Tolerance and Porcine Cytokines Theref
NUMBER OF SEQUENCES: 24
CORRESPONDENCE ADDRESS:
ADDRESSEE: Carella, Byrne, Bain, Gilfillan, Cecchi, Stewart & Olstein
STREET: 6 Becker Farm Road
                                                  ö
                                                                                                                                                                                                             375 AGTTCACCCAGCTCTGTCACTCGGCCCTGGCAACACGTGGATGCCATCAAGGAGGCCCTG 316
                                                                                                                                        435 Archecchechacchechtricerecchecchererechechechechererechec 376
                                                                                                                                                                                                                                                                                                                            TCTGAAACGTTTGACGCCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                               301 TACAAGCACACCCCCCCCCCCCCCCTGGAACTTCCTGTGCAACCCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              75 AAAAATTTCAAAGAAATCTGAAGGATTTTCTGTTTAACAACCCCTTTGACTGCTGGGGA 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 CCCCAACCCAGCCCTGTCACTCGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG
                                                  0; Gaps
    DB 5; Length 444;
Score 332.6; DB 5; Length
Pred. No. 6.9e-88;
0; Mismatches 64; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US/08/133,979A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        28,019
3R: 61750-79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ZIP: 07068

COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch diskette
COMPUTER: IBM PC Compatible
OPERATION SYSTEM: MS-DOS 5.0
SOFTWARE: Word Perfect 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/133,975
FILING DATE: October 8, 1993
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTONNEY/AGENT INFORMATION:
NAME: Herron. Charles J.
REGISTRATION NUMBER: 28 019
REFERENCE/DOCKET NUMBER: 6175
TELEPHONE: 201-994-1740
TELEPHONE: 201-994-1744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INFORMATION FOR SEQ ID NO: 10:
    76.5%;
85.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421 CCAGCCCAGAAGTAA 435
  Query Match 76.5
Best Local Similarity 85.3
Matches 371; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               15 CCAGACCAGAAGTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CITY: Roseland
STATE: New Jersey
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-08-133-979A-10
```

셤 ò 셤 a

ò

g

ઠે

요

ò d ò

ò

g

ò

```
Porcine Cytokines Theref
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 10, Application US/08451213

j Fatent No. 5863528
j Fatent No. 5863528
j Fatent No. 5863528
j Fatent No. 5863528
j Fatent No. 5863528
j Fatent No. 5863528
j Fatent No. 5863528
j Fatent No. 5863528
j Fatent No. 5863528
j Fatent No. 5863528
j Fatent No. 5863528
j APPLICANT: Rosa, Margaret D. APPLICANT: Schacter, Bernice Z. 1
j TILE OF INVENTION: Enhancement of Xenograft Tolerance and Porcine Cytokine NUMBER OF SEQUENCES: 24
j CORRESPONDENCE ADDRESS;
j ADDRESSEE: Carella, Byrne, Bain, Gilfillan, Cecchi, Stewart & Olstein STREET: 6 Becker Farm Road CITY: Roseland
j CITY: Roseland
j STATE: New Jersey
country: USA
                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         90 CGCCCCACCCAGCCCTGTCACCCGGCCCTGGCATGTGGATGCCATCAAAGAAGCCCTG 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   150 AGCCTTCTARACAACAGTAATGACACAGCGGCTGTGATGAATGAAACGTAGACGTCGTC 209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   210 TGTGAAATGTTTGACCCCCAGGAGCCGACATGCGTGCAGCTCGCCTGAACCTGTACAAG 269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TACAAGCAGCACTGCCCCCCCCCCCCGGAAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             210 CAGGGCCTGCGGGGCAGCCTCACTAGGCTCAAGAGCCCCTTGACTCTGTTGGCCAAGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         30 Argrescrecasaaccrecricrecressaarcreresaarcrecasarcrescresearcres
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      390 AAAGTTTCAAAGACAGTCTGAACAAATTTCTTTTTACCATCCCCTTTGACTGCTGGGGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 CGCCAACCCAGCCTGTCACTCGGCCCTGACAGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                       Length 798;
                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                     76.5%; Score 332.6; DB 2;
85.3%; Pred. No. 8.9e-88;
ive 0; Mismatches 64;
                                                                            61750-139
          ATTORNEY AGENT INFORMATION:
NAME: Herron, Charles J.
REGISTRATION NUMBER: 28,019
REFERENCE/DOCKET WINBER: 61750
TELEPHONE: 201-994-1740
INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
LENGTH: 798 BASE PAIRS
TYPE: NUCLEIC ACID
STRANDEDNESS: DOUBLE
TOPOLOGY: LINEAR
TYPE: LINEAR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421 CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCAGTCAAAAAGTAA 464
                                                                                                                                                                                                                                                                                                                                                     Query Match 76.5
Best Local Similarity 85.3
Matches 371; Conservative
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                  US-08-436-890-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 10
US-08-451-213-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            181
                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 10, Application US/08436890
Patent No. 5858963
GENERAL INFORMATION:
APPLICANT: Hawley, Robert J.
APPLICANT: Rosa, Margaret D.
APPLICANT: Rosa, Margaret D.
APPLICANT: APPLICANT: Bernice Z.
TITLE OF INVENTION: Enhancement of Xenograft Tolerance and Porcine Cytokines There
NUMBER OF SEQUENCES: 24
CORRESPONDENCE ADDRESS:
ADDRESSEE Carella, Byrne, Bain, Gilfillan, Cecchi, Stewart & Olstein
                                                                                                                                                                                                                                                                                                                                     CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                            90 CGCCCCACCCAGCCCTGTCACCCGGCCCTGGCAGCATGTGGATGCCATCAAAGAAGCCCTG 149
                                                                                                                                                                                                                                                                                                                                                                                                                 209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TACAAGCACACTGCCCCCCCCCCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             449
                                                                                                                                                                                                                                                                                            89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE: Carella, Byrne, Bain, Gilfillan, Cecchi,Stewart & Olstein
STREET: 6 Becker Farm Road
                                                                                                                                                                                                                                                                               30 ATGTGGCTGCAGAACCTGCTTCTCCTGGGCACTGTGGTCTGCAGCATCTCCGCTCCCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CAGGGCCTGCGGGGCAGCCTCACTAGGCTCAAGAGCCCCTTGACTCTGTTGGCCAAGCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TATGAGCAGCACTGCCCCCTCACCAGGAAACTTCCTGTGAAACCCAGTCTATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                      <u> aaaagriricaaagacagrergaacaaarrirerrirraccareeeerrraacreeege</u>
                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                               ö
                                                                                                                                                                        Score 332.6; DB 2; Length 798;
Pred. No. 8.9e-88;
0; Mismatches 64; Indels 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDIUM TYPE: 3.5 inch diskette COMPUTER: IBM PC Compatible OPERATING SYSTEM: MS-DOS 6.0 SOFTWARE: ASCII CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/436,890 FILING DATE: MAY 8, 1995
                                                                                                                                                                        Query Match 76.5%;
Best Local Similarity 85.3%;
Matches 371; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CCAGTCAAAAAGTAA 464
                LENGTH: 798 BASE PAIRS
TYPE: UUCLEIC ACID
STRANDEDNESS: DOUBLE
TOPOLLGY: LINEAR
HYPOTHETICAL: NO
SEQUENCE CHARACTERISTICS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CITY: Roseland
STATE: New Jersey
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 07068
                                                                                                                         ; ANII-SENSE:
US-08-133-979A-10
                                                                                                                   ANTI-SENSE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 9
US-08-436-890-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      210
                                                                                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             390
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         450
                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
```

```
NAME/KEY: CDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 12
US-10-209-507-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                       FEATURE
                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            qq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  270 caegecrecegegeaecercacragecreaagacecerreacrerereresecaagae 329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      330 rargadciacidecececercaeceaegaaaerrecerereaaaeceaererareaeerre 389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               390 AAAAGTTTCAAAAACAGTCTGAACAAATTTCTTTTTACCATCCCCTTTGACTGCTGGGGG 449
                                                                                                                                                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                83
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          90 CGCCCACCCAGCCCTGTCACCCGCCCTGGCAGCATGTGGATGCCATCAAAGAAGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAAAGITITCAAAAAGAACCIGAAGGAITITICIGITITGAGAICCCGITITGACIGCAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      30 ATGTGGCTGCAGAACCTGCTTCTCCTGGGCACTGTGGTCTGCAGCATCTCCGCTCCCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 CGCCAACCCAGCCCTGTCACTCGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TACAAGCAGCACTGCCCCCCCCCCCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                 Score 332.6; DB 2; Length 798;
Pred. No. 8.9e-88;
0; Mismatches 64; Indels 0
                                                                                                                                                                           NAME: Herron, Charles J.
REGISTRATION NUMBER: 28,019
REFERENCE/DOCKET NUMBER: 61750-79
TELECOMMUNICATION INPORMATION:
TELEPHONE: 201-994-170
TELEPHONE: 201-994-174
INPORVATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
LENGTH: 79 BASE PAIRS
TYPE: NUCLEIC ACLD
STRANDEDNESS: DOUBLE
COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch diskette
COMPUTER: 11BM PC Compatible
OPERATING SYGTEM: MS-DOS 5.0
SOFTWARE: Word Perfect 5.1
CURRENT APPLICATION NATA:
APPLICATION NUMBER: US/08/451,213
FILING DATE: 26-MAY-1995
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 11
US-09-617-594A-9
; Sequence 9, Application US/09617594A
; Patent No. 6541458
; GENERAL INFORMATION:
                                                                                                                     PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/133,979
FILING DATE: October 8, 1993
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 85.3%;
Matches 371; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ccagrcaaaaagraa 464
                                                                                                                                                                                                                                                                                                                                                                       US-08-451-213-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
```

```
TITLE OF INVENTION: FELINE CALICIVIRUS GENES AND VACCINES IN PARTICULAR RECOMBINANT VIPLE REFERENCE: 494313-3151.1
CURRENT APPLICATION NUMBER: US/09/617,594A
CURRENT PILING DATE: 2000-07-14
PRIOR APPLICATION NUMBER: 60/193,332
PRIOR FILING DATE: 2000-03-30
PRIOR FILING DATE: 2000-02-11
PRIOR FILING DATE: 2000-02-11
PRIOR FILING DATE: 1999-07-16
NUMBER OF SEQ ID NOS: 26
SOFWARE: PATENTIN VERBION 3.0
SEQ ID NOS: 26
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 9, Application US/10209507;
Fatent No. 6914134
GENERAL INFORMATION:
APPLICANT: Audonnet, et al.
TITLE OF INVENTION: FELINE CALICIVIRUS GENES AND VACCINES IN PARTICULAR RECOMBINANT V?
FILE REFRENCE: 454313-3151.2
CURRENT APPLICATION NUMBER: 08/10/209,507
CURRENT FILING DATE: 2002-11-12
PRIOR APPLICATION NUMBER: 09/617,594
PRIOR APPLICATION NUMBER: 60/193,332
PRIOR APPLICATION NUMBER: 60/193,332
PRIOR FILING DATE: 2000-03-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241 cadedectracedescadectearcadecreaadeadecrereadeardardeceaacer 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361 AAAAATTTCAAAGAGAATCTGAAGGATTTTCTGTTTAACATCCCCTTTGACTGCTGGAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61 AGTTCACCCAGCTCTGTCACTCGGCCCTGGCAACACGTGGATGCCATCAAGGAGGCTCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAAAGTTTCAAAAAGAACCTGAAGGATTTTVTTCTTTGAGATCCCGTTTGACTGCTGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TACAAGCAGCACCCCCCCCCCCCCCCCGGAACTTCCTGTGCAACCCAGATGATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301 TACAAGCAGCACTGCCCCTTACTCCGGAAACGCCCTGTGAAACCCAGACTATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 ATGIGGCIGCAGAACCIGCTICTICTGGGCACTGIGGTTTACAGCAIGCCGCACCCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 432;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    63; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; LOCATION: (1)..(429); OTHER INFORMATION: coding sequence of 3R4 feline GM-CSF US-09-617-594A-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 3;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 331.2; DB 3
Pred. No. 1.8e-87;
0; Mismatches 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 85.4%;
Matches 369; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCAGCCCAGAAG 432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ccagrcaagaag 432
                                                                                                                                                                                                                                                                                                                                         LENGTH: 432
TYPE: DNA
ORGANISM: Felis
```

```
61 CGCCAACCCAGCCCTGTCACTCGGCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 decresecedadecedadecadeceradadecarioranidadarecaricadadecedes 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121 cercircida Accida de la contra del la contra della co
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301 TACAAGCAGCACCTCCAACCCCGGAACTTCCTGTGCAACCCAGATTATCACCTTT 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TACAAGCAGCACTGCCCCCCCCCCCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361 AAAAGTITCAAAAAGAACCIGAAGGAITITICIGITITGAGAICCCGITIGACTGCIGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361 GAAAGTITCAAAGAACCTGAAGGACITITCTGCITGTCAICCCCITIGACIGCTGGGAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DB 3; Length 435;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           76.1%; Score 331; DB 3; Length 43
85.1%; Pred. No. 2e-87;
Live 0; Mismatches 65; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 8, Application US/09826025
Patent No. 6730512
GENERAL INFORMATION:
APPLICANT: Chang, Lung-Ji
TITLE OF INVENTION: Combination Immunogene Therapy
NUMBER OF SEQUENCES: 25
CORRESPONDENCE ADDRESS:
ADDRESSEE: Medlen & Carroll, LLP
STREET: 220 Montgomery Street, Suite 2200
                                                                                                                                                                                         PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/638,702
FILING DATE: 09-APR-1997
ATTORNEY/AGENT INFORMATION:
NAME: PACE, DORAN R.
REGISTRATION NUMBER: 38,261
REFERENCE/DOCKET NUMBER: CNG-100C1
TELEPHONE: (352) 375-8100
TELEPAX: (352) 375-8800
INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
                                                                APPLICATION NUMBER: US/08/848;760B
FILING DATE: 25-Jan-2001
CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TOPOLOGY: linear

MOLECULE TYPE: other nucleic acid

DESCRIPTION: /desc = "DNA"

SEQUENCE DESCRIPTION: SEQ ID NO: 8:
US-08-848-760B-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 435 base pairs
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: nucleic acid
STRANDEDNESS: double
                       CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ccagrccaggagrga 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity 85.1
Matches 370; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 14
US-09-826-025-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   음
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          61 AGTICACCCAGCICIGICACICGGCCCIGGCAACACGIGGAIGCCAICAAGGAGGCICIG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TCTGAAATGTTTGACCCTGAGGAGCCGAAATGCCTGCAGACTCACCCTAAAGCTGTACGAG 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGGGCCTACGGGGCAGCCTCATCAGCCTCAAGGAGCCTCTGAGGATGATGGCCAACCAT 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TACAAGCAGCACTGCCCCCCCCCCCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AAAAATTTCAAAGAGAATCTGAAGGATTTTCTGTTTAACATCCCCTTTGACTGCTGGAAA 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 Argrescriccada Accrecitrir consecon contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra contra
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301 TACAAGCAGCACTGCCCCCTTACTCCGGAAACGCCCTGTGAAACCCCAGACTATCACCCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Chang, Lung-Ji
TITLE OF INVENTION: Animal Model For Evaluation Of Vaccines
NUMBER OF SEQUENCE: 33
CORRESPONDENCE ADDRESS:
ADDRESSEE: Saliwanchik, Lloyd & Saliwanchik
STREET: 2421 N.W. 41st Street, Suite A-1
CITY: Gainesville
STREET: Florida
COUNTRY: United States of America
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 3; Length 432;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY: CDS
1. LOCATION: (1)..(429)
3. OTHER INFORMATION: coding sequence of 3R4 feline GM-CSF gene US-10-209-507-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 76.1%; Score 331.2; DB 3; Length Best Local Similarity 85.4%; Pred. No. 1.8e-87; Matches 369; Conservative 0; Mismatches 63; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDIUM TYPE: Floppy disk
COMPUTER: 1BM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: RC-DOS/MS-DOS
                       APPLICATION NUMBER: France 00 01761
PRIOR APPLICATION NUMBER: France PRIOR FILING DATE: 2000-02-11
PRIOR PLIING DATE: 2000-02-11
PRIOR APPLICATION NUMBER: France 99 09-
NUMBER OF SEQ ID NOS: 26
SOFTWARE: PatentIn version 3.0
SEQ ID NO 9
SEQ ID NO 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 8, Application US/08848760B
Patent No. 6248721
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 32606
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CCAGCCCAGAAG 432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CCAGTCAAGAAG 432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                   TYPE: DNA
ORGANISM: Felis sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-08-848-760B-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
```

g ò 셤

ઠ

g

ઠે

ò 유 엄

ò

요 δ 셤 ઠ 셤

ò

ö

9 9

```
g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        쉽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241 cagegécrecegégégégécrekechanderenandegécetrifianechigardecenégeene 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TACAAGCACTGCCCCCCCCCCTGGAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TACAAGCAGCACTGCCCTCCAACCCCGGAAACTTCCTGTGCAACCCAGATTATCACCTTT 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361 GAAAGTTTCAAAAGAGAACCTGAAGGACTTTCTGCTTGTCATCCCCTTTGACTGCTGGAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 AYGTGGCTGCAGAGCCTGCTGCTCTTGGGCACTGTGGCCCTGCAGCATCTCTGCACCCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 76.1%; Score 311; DB 3; Length 435; Best Local Similarity 85.1%; Pred. No. 2e-87; Matches 370; Conservative 0; Mismatches 65; Indels
                                                     MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
COMPUTER: IBM PC COMPATIBLE
COMPUTER: IBM PC COMPATIBLE
COMPUTER: IBM PC COMPATIBLE
CORRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/826,025
FILING DATE: 04-App-2001
CLASSIFICATION + UNKNOWN>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/838,702
ATTORREY/AGENT INFORMATION:
ATTORREY/AGENT INFORMATION:
                                                                                                                                                                                                                                                           NAME: Ingolia, Diane E.
REGIESTRATION NUMBER: 40,027
REFERENCE/DOCKET NUMBER: CHANG-02687
TELECOMMUNICATION INFORMATION:
STATE: California
COUNTRY: United States of America
                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY: linear
MOLECULE TYPE: other nucleic acid
DESCRIPTION: /desc = "DNA"
SEQUENCE DESCRIPTION: SEQ ID NO: 8:
                                                                                                                                                                                                                                                                                                                              TELEPHONE: (415) 705-8410
                                                                                                                                                                                                                                                                                                                                          TELEFAX: (415) 397-8338
INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                             LENGTH: 435 base pairs
TYPE: nucleic acid
STRANDEDNESS: double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCAGTCCAGGAGTGA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCAGCCCAGAAGTAA 435
                                            COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-826-025-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
```

RESULT 15 US-09-543-679A-2706

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TACAAGCAGCACTGCCCCCCCCCCGGAAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     93 cécrcecchaecechacacacacacacacacacacaracararacanacaracanacadadececs 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       273 cadedecrecedededecreaceardereaadecececerreaceardardeceadeded 332
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           33 Ariendecrice adadecrice recreated contracted activities and an ariended activities and ariended activities and ariended activities and ariended activities are also activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and are activities and activities and activities are activities and activities are activities and activities and activities are activities and activities and activities are activities and activities and activities are activities and activities and activities are activities and activities and activities are activities and activities are activities and activities and activities are activities and activities are activities and activities and activities are activities and activities and activities are activities and activities activities and activities are activities and activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities activities a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 ATGIGGCIGCAGAACCIGCTICTICIGGGCACTGIGGTTTACAGCAIGCCGCACCCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Gaps
Sequence 2706, Application US/09543679A
Patent No. 7034007
GENERAL INFORMATION:
GENERAL INFORMATION:
TAPPLICANT: NYCE, Jonathan W.
TITLE OF INVENTION: LOW ADENOSINE ANTI-SENSE OLIGONUCLEOTIDE,
COMPOSITIONS, KIT & METHOD FOR TREATMENT
OF ALKWAY DISORDERS ASSOCIATED WITH
BRONCHOCONSTRICTION, LUNG INFLAMMATION,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 789;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       65; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADDRESSEE: EPIGENESIS PHARMACEUTICALS, INC. STREET: 7 Clarke Drive
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      76.1%; Score 331; DB 5;
85.1%; Pred. No. 2.6e-87;
tive 0; Mismatches 65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REFERENCE/DOCKET NUMBER: EPI-0067191b TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/543,679A
FILING DATE: 13-APT-2000
CLASSIFICATION: UNKNOWN
PRIOR APPLICATION: UNKNOWN
APPLICATION NUMBER: 60/127,958
ATTORNEY/AGENT INFORMATION:
NAME: AMACAL, Viviana
REGISTRATION NUMBER: 30,930
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TOPOLOGY: linear
;
SEQUENCE DESCRIPTION: SEQ ID NO: 2706
US-09-543-679A-2706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEX: «Unknown»
INFORMATION FOR SEQ ID NO: 2706:
SEQUENCE CHARACTERISTICS:
LENGTH: 789 base pairs
TYPE: nucleic acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER: IBM Compatible OPERATING SYSTEM: DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEPHONE: 609-409-3035
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX: 413-254-9245
                                                                                                                                                                                                                                                                                                                                                                                 NUMBER OF SEQUENCES: 3111 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ZIP: 08512
COMPUTER READABLE FORM:
MEDIUM TYPE: CD-R
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local Similarity 85.1
Matches 370; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CITY: Cranbury
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: N/A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STATE: NJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
```

Marine Paris

Search completed: May 26, 2006, 01:29:01 Job time : 166 secs

BEST AVAILABLE COPY

```
FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE AND AGAINS

FEMOLEGATE

FEMOLEGATE AND AGAINS

FEMOLEGATE

FEMO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 119, App
Sequence 121, App
Sequence 119, App
Sequence 121, App
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 9, Appli
Sequence 8, Appli
Sequence 14, Appl
Sequence 17, Appl
Sequence 17, Appl
Sequence 17, Appl
Sequence 17, Appl
                                                                                                                                                                    May 26, 2006, 01:24:10 ; Search time 1032 Seconds (without alignments) 5179.381 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 17,
Sequence 17,
Sequence 17,
Sequence 17,
                                                                                                                                                                                                                                                                                                                                                                    1 atgtggctgcagaacctgct......ggaagccagcccagaagtaa 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 8,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Seguence
GenCore version 5.1.8
Copyright (c) 1993 - 2006 Biocceleration Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-10-218 654-119
US-10-218 -654-121
US-10-262-439-121
US-10-262-439-121
US-10-209-507-9
US-10-083-590-14
US-10-411-037-17
US-10-411-049-17
US-10-411-049-17
US-10-411-012-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Fotal number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               18892170 segs, 6143817638 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Applications NA Main:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                                 - nucleic search, using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gapop 10.0 , Gapext 1.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    seq length: 0
seq length: 200000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query
Match Length DB
                                                                                                                                                                                                                                                                                                     US-10-614-481-8
                                                                                                                                                                                                                                                                                                                                                                                                                          IDENTITY NUC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Published
                                                                                                                                                                                                                                                                                                                                 Perfect score:
                                                                                                                                                                                                                                                                                                                                                                                                                       Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  332.6
332.6
332.6
331.2
331.3
331.3
331.3
331.3
331.3
331.3
331.3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score
                                                                                                                 OM nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Minimum DB
Maximum DB
                                                                                                                                                                                                                                                                                                                                                                 Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Database
                                                                                                                                                                             Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Result
```

Sequence 8, Appli	Sequence 17, Appl	1	H	a	ä	Sequence 16, Appl	13	20	Sequence 16, Appl	Sequence 16, Appl	e 1	ä	Ś	ŋ	12	12	2	12	Sequence 123, App	Sequence 2, Appli	Sequence 32, Appl	Sequence 15, Appl	16,	Sequence 108, App	Sequence 109, App	Sequence 191, App	Sequence 82, Appl	
 9 US-10-785-\$77-8		0	0	_	9				7 US-10-131-985-16			15 US-11-066-480-10							7 US-10-262-439-123						10 US-10-775-204-109	7 US-10-267-384-191	9 US-10-688-845-82	
435	435	435	435	435	435	435	448	781	789	789	900	006	1172	1172	432	432	432	432	432	1833	435	435	435	435	435	496	202	
76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	76.1	75.8	75.8	75.8	75.8	75.8	75.8	75.7	75.7	75.7	75.7	75.7	75.7	75.7	
331	331	331	331	331	331	331	331	331	331	331	331	331	331	331	329.6	329.6	329.6	329.6	329.6	329.6	329.4	329.4	329.4	329.4	329.4	329.4	329.4	
18	19	20	21	22	23	24	25	56	27	28	29	30	31	32	33	C 34	35	36	c 37	38	39	40	41	42	43	44	45	

## ALIGNMENTS

```
61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGGTGTGGATGCCATCAAGAAGAGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 435;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: CDS

LOCATION: (1)..(432)

CTHER INFORMATION: coding sequence of equine GM-CSF gene

US-10-614-481-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               100.0%; Score 435; DB 10;
100.0%; Pred. No. 8.7e-131;
cive 0; Mismatches 0;
SQUENCE AND STATE OF THE STATE OF THE STATE OF THE STATE OF INVENTION SEQUENCE STATE OF INVENTION SEQUENCE STATE OF INVENTION SEQUENCE STATE OF INVENTION SEQUENCE STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF STATE OF ST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches 435; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE: DNA ORGANISM: Equine sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
```

ö

q

δ

ઠે g ò

g ò 쉱

8

```
APPLICANT: Yang, Shumin
APPLICANT: Yang, Shumin
APPLICANT: Yang, Shumin
APPLICANT: Wonderling, Ramanis.
ITLE OF INVENTION: CANINE AND FELINE IMMUNORECULATORY PROTEINS, NUCLEIC
ITLE OF INVENTION: ACID MOLECULES, AND USES THEREOF
ITLE OF INVENTION: ACID MOLECULES, AND USES THEREOF
ITLE OF INVENTION: ACID MOLECULES, AND USES THEREOF
CURRENT APPLICATION NUMBER: US/10/218,654
CURRENT FILING DATE: 12999-05-28
PRIOR APPLICATION NUMBER: US/09/322,409
PRIOR APPLICATION NUMBER: US/08/306
PRIOR APPLICATION NUMBER: 60/087,306
PRIOR FILING DATE: 1998-05-29
NUMBER OF SEQ ID NOS: 154
SOFTWARE: PATENTIN VET: 2.0
SEQ ID NO 121
LENGTH: 444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   375 AGTTCACCCAGCTCTGTCACTCGGCCCTGGCAACACGTGGATGCCATCAAGGAGGCCCTG 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TACAAGCAGCACTGCCCCCCCCCCCCCCGGAAACTTCCTGTGCAACCCCAGATGATCACCTTC 360
                                                                                                                                                       TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            435 Arienescriscada Accriscrir recrises calciner recase caretra cada cada cada de a 376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TACAAGCAGCACTGCCCCCTTACTCCGGAAACGCCCTGTGAAACCCAGACTATCACCTTC 76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAAAATITICAAAGAGAATCTGAAGGATTTTCTGTTTAACAACCCCTTTGACTGCTGGGGA 16
                                                                                 61 CGCCAACCCAGCCCTGTCACTCGGCCCTGCCAGCATGTGGATGCCATCAAGGAGGCCCTG
                                                           TACAAGCACTGCCCCCCCCCCCTGGAAACTTCCTGTGCAACCCCAGATGATCACCTTC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 444;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 76.5%; Score 332.6; DB 6; Best Local Similarity 85.3%; Pred. No. 2.1e-97; Matches 371; Conservative 0; Mismatches 64;
                                                                                                                                                                                                                                                                                                                                                ; Sequence 121, Application US/10218654; Publication No. US20030099609A1; GENERAL INFORMATION: APPLICANT: Sim, Gek-Kee
                                                                                                                                                                                                                 421 CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                    430 ccagaccagaagraa 444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; TYPE: DNA
; ORGANISM: Felis catus
US-10-218-654-121
                                                                                                                                                                                                                                                                                                                                US-10-218-654-121/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ∂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                           g
                                                                                                                                                                     g
                                                                                                                                                                                                               δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                     ò
                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Sim, Gek-Kee
APPLICANT: Yang, Shumin
APPLICANT: Yang, Shumin
APPLICANT: Yang, Shumin
APPLICANT: Dreitz, Matthew J.
APPLICANT: Dreitz, Matthew J.
APPLICANT: Wonderling, Ramani S.
TITLE OF INVENTION: CANINE AND FELINE IMMUNOREGULATORY PROTEINS, NUCLEIC
TITLE OF INVENTION: ACID MOLECULES, AND USES THEREOF
FILE REFERENCE: IM-2-CI
CURRENT APPLICATION NUMBER: US/10/218,654
CURRENT FILING DATE: 2002-08-13
PRIOR APPLICATION NUMBER: US/99/322,409
PRIOR FILING DATE: 1998-05-28
PRIOR FILING DATE: 1998-05-29
NUMBER OF SEQ ID NOS: 154
SOFTWARE: PATENTIN VET. 2.0
SEQ ID NO 119
                                                                               240
                                                                                                                     300
                                                                                                                                                         300
                                                                                                                                                                                                 360
                                                                                                                                                                                                                                     360
                                                                                                                                                                                                                                                                        AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TCTGAAATGTTTGACCCTGAGGAGCCGAAATGCCTGCAGACTCACCTAAAGCTGTACGAG 249
     69
                                                             241 CAGGCCTTGCGGGGCAGCCTCATCAAGCTCGAAGGCCCCTTGACCATGATGGCCAGCAC
                                                                                                                                                                                                                     301 TACAAGCAGCACTGCCCCCCCCCCGGAAACTTCCTGTGCAACCCAGATGATGATCACCTTC
                                                                                                                                                                                                                                                                                            1 ATGIGGCIGCAGAACCIGCTICTICIGGCCACIGIGGITTACAGCATGCCCGCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query March 76.5%; Score 332.6; DB 6; Length 444; Best Local Similarity 85.3%; Pred. No. 2.1e-97; Matches 371; Conservative 0; Mismatches 64; Indels 0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; Sequence 119, Application US/10218654; Publication No. US20030099609A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                    CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                          CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; NAME/KEY: CDS
; LOCATION: (10)..(441)
US-10-218-654-119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Felis catus
                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 2
US-10-218-654-119
                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            190
                                                                                                                         241
                                                                                                                                                                                                 301
                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: DNA
```

g

ò

ద

ò

a ò 셤

ઠે

ö

```
195 CAGGGCCTACGGGGCAGCCTCATCAGCCTCAAGGAGCCTCTGAGAATGATGGCCAACCAT 136
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       301 TACAAGCAGCACTGCCCCCCCCCCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  75 AAAAATTTCAAAGAAACTGAAGGATTTTCTGTTTAACAACCCCTTTGACTGCTGGGGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 CGCCAACCCAGCCCTGTCACTCGGCCCTGACCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       375 AGTICACCCAGCTCTGTCACTCGGCCCTGGCAACACGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 444;
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 76.5%; Score 312.6; DB 7; Best Local Similarity 85.3%; Pred. No. 2.1e-97; Matches 371; Conservative 0; Mismatches 64;
                           Sequence 121, Application US/10262439
Publication No. US20030143196A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCAGACCAGAAGTAA 1
                                                                                                                                                                                                                                                                                                                                                                    ; TYPE: DNA
; ORGANISM: Felis catus
US-10-262-439-121
               US-10-262-439-121/c
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 6
US-10-209-507-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             윰
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                            APPLICANT: Sin, Gek-Kee
APPLICANT: Sin, Gek-Kee
APPLICANT: Vang, Shumin
APPLICANT: Vang, Shumin
APPLICANT: Dreitz, Matthew J.
APPLICANT: Wonderling, Ramani S.
TITLE OF INVENTION: CANINE AND FELINE IMMUNOREGULATORY PROTEINS, NUCLEIC
TITLE OF INVENTION: ACID MOLECULES, AND USES THEREOF
TITLE OF INVENTION NUMBER: US/10/262,439
CURRENT APPLICATION NUMBER: US/09/451,527
PRIOR APPLICATION NUMBER: US/09/451,527
PRIOR PILING DATE: 1999-12-01
PRIOR FILING DATE: 1999-05-28
PRIOR FILING DATE: 1999-05-28
PRIOR FILING DATE: 1998-05-29
NUMBER OF SEQ ID NOS: 174
SOFTWARE: PATENTIN VET. 2.0
SEQ ID NOS: 174
SEG ID NOS: 174
SEG ID NOS: 174
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                70 AGTTCACCCAGCTCTGTCACTCGGCCCTGGCAACACGCGTGGATGCCATCAAGGAGGCCCTG 129
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        190 TCTGAAATGTTTGACCCCTGAGGAGCCGAAATGCCTGCAGACTCACCTAAAGCTGTACGAG 249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TACAAGCAGCACTGCCCCCCCCCCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   310 TACAAGCAGCACTGCCCCTTACTCCGGAAACGCCCTGTGAAACCCAGACTATCACCTTC 369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AAAAATTTCAAAGAGAATCTGAAGGATTTTTCTGTTTAACAACCCCTTTGACTGCTGGGGGA 429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10 ATGTGGCTGCAGAACCTGCTTTTCCTGGGCACTGTGGTCTGCAGCATCTCTGCACCACCACC 69
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 76.5%; Score 332.6; DB 7; Length 444; Best Local Similarity 85.3%; Pred. No. 2.1e-97; Matches 371; Conservative 0; Mismatches 64; Indels 0
                                                                                                      Sequence 119, Application US/10262439 Publication No. US20030143196A1 GENERAL INFORMATION:
421 CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ccagaccagaagraa 444
                    15 CCAGACCAGAAGTAA
                                                                                                                                                                                                                                                                                                                                                                                                                                               TYPE: DNA ORGANISM: Felis catus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ) NAME/KEY: CDS
; LOCATION: (10)..(441)
US-10-262-439-119
                                                                                       US-10-262-439-119
                                                                                                                                                                                                                                                                                                                                                                                                                                  ENGTH: 444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local :
ò
                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
```

376 120

9

.; 0

180

256

316

240

92

Sequence 9, Application US/10209507
; Publication No. US20030109033A1
; GENERAL INFORMATION:
APPLICANT: Audonnot, et al.
; TITLE OF INVENTION: FELINE CALICIVIRUS GENES AND VACCINES IN PARTICULAR RECOMBINANT VI 16

```
US-09-826-025-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              421
                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                                                                                                                                                      61 AGTTCACCCAGCTCTGTCACTCGCCCTGGCAACACGTGGATGCCATCAAGGAGGTCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241 caddiceracidededadericarcaecricaaddadeereridaddardarddeera 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301 racaagcagcacreccerracrecgaaaagcecergreaaacceagacrareacerre 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361 AAAAATTTCAAAGGAAATCTGAAGGATTTTCTGTTTAACATCCCCTTTGACTGCTGGAAA 420
                                                                                                                                                                                                                                                                                                                                                                                         61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                      1 ATGTGGCTGCAGAACCTGCTTTTCCTGGGCACTGTGGTCTGCAGCATCTCTGCACCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG
                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                 ;
0
                                                                                                                                                                                                                                                                                       Length 432;
                                                                                                                                                                                                                 ; NAME/KEY: CDS
; LOCATION: (1)..(429)
; OTHER INFORMATION: coding sequence of 3R4 feline GM-CSF gene
US-10-209-507-9
                                                                                                                                                                                                                                                                                     Query Match
76.1%; Score 331.2; DB 6; Length
Best Local Similarity 85.4%; Pred. No. 6e-97;
Matches 369; Conservative 0; Mismatches 63; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FILE REFERENCE: 454313-3151.2
CURRENT APPLICATION NUMBER: US/10/209,507
CURRENT FILING DATE: 2002-11-12
PRIOR APPLICATION NUMBER: 09/617,594
PRIOR FILING DATE: 2000-07-14
PRIOR FILING DATE: 2000-03-30
PRIOR FILING DATE: 2000-03-30
PRIOR FILING DATE: 2000-03-31
PRIOR FILING DATE: 2000-02-11
PRIOR PILING DATE: 2000-02-11
PRIOR FILING DATE: 1999-07-16
NUMBER OF SEQ ID NOS: 26
SEQ ID NO 9
SEQ ID NO 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCAGTCAAGAAG 432
                                                                                                                                                                                         TYPE: DNA
ORGANISM: Felis sp.
                                                                                                                                                                            LENGTH: 432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-826-025-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 7
                                                                                                                                                                                                                                                                                                                                                                ద
                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ò
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361 GAAAGTITCAAAGAAGAACTIGAAAGAACTITCTGCTIGTCATCCCCTITGACTGGGGAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TACAAGCAGCACTGCCCCCCCCCCTGGAAACTTCCTGTGCAACCGAGATGATGACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301 TACAAGCAGCACTGCCCTCCAACCCCGGAACTTCCTGTGCAACCCCAGATTATCACCTTT 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 ATGTGGCTGCAGAGCCTGCTGCTGCTGGGCACTGTGGGCCTGCAGCATCTCTGCACCCCCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                       COMPUTER KEADABLE FORM

MEDIUM TYPE: FLOPPY disk

COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS/MS-DOS
OFFWARE: PATENTIN Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/826,025
FILING DATE: 04-Apr-2001
CLASSIFICATION DATA:
APPLICATION NUMBER: 08/838,702
FILING DATE: culknown>
ATTORNEY/AGENT INFORMATION:
NAME: Ingolia, Diane E.
REGISTRATION NUMBER: 40,027
REFERENCE/DOCKET NUMBER: CHANG-02687
TELEPHONE: (415) 397-8338
INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
LENGTH: 435 base pairs
TTYPE: nucleic acid
STRANDEDNESS: double
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 435;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            76.1%; Score 331; DB 3; Length 43
85.1%; Pred. No. 7e-97;
tive 0; Mismatches 65; Indels
COUNTRY: United States of America
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY: linear
MOLECTULE TYPE: other nucleic acid
DESCRIPTION: /desc = "DNA"
SEQUENCE DESCRIPTION: SEQ ID NO: 8:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 8
US-10-083-590-14
Sequence 14, Application US/10083590
; Publication No. US20030027257A1
                        ZIP: 94104
COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity 85.1
Matches 370; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CCAGTCCAGGAGTGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
```

```
61 cecrceccadececadeacecadeceradaaceareraaarecearecadeaceced 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181 TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301 TACAAGCAGCACTGCCCCCCCCCCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 301 Tacaagcagcacrecerceaacceggaacrrecrerecaacceaarrarcacerr 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361 gadagirircadagagadecreadagagarrirergerigrearecerrigaergeegag 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 ATGTGGCTGCAGAGCCTGCTCTTGGGCACTGTGGCCTGCAGCATCTCTGCACCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 331; DB 8; Length 435;
Pred. No. 7e-97;
0; Mismatches 65; Indels
                       CURRENT APPLICATION NUMBER: US/10/411,037
CURRENT APPLICATION NUMBER: US/10/411,037
CURRENT FILING DATE: 2003-04-09
PRIOR APPLICATION NUMBER: US 60/328,523
PRIOR FILING DATE: 2001-10-10
PRIOR PILING DATE: 2001-10-19
PRIOR PLING DATE: 2001-10-19
PRIOR PLING DATE: 2002-06-07
PRIOR PLING DATE: 2002-06-07
PRIOR PLING DATE: 2002-06-07
PRIOR PLING DATE: 2002-06-07
PRIOR PILING DATE: 2002-06-17
PRIOR PILING DATE: 2002-06-17
PRIOR PILING DATE: 2002-06-17
PRIOR FILING DATE: 2002-06-16
PRIOR FILING DATE: 2002-06-16
PRIOR PILING DATE: 2002-08-16
PRIOR PILING DATE: 2002-08-18
PRIOR PILING DATE: 2002-08-18
PRIOR PILING DATE: 2002-08-18
PRIOR PILING DATE: 2002-08-18
PRIOR PILING DATE: 2002-08-18
PRIOR PILING DATE: 2002-08-18
PRIOR PILING DATE: 2002-08-18
PRIOR PILING DATE: 2002-08-18
PRIOR PILING DATE: 2002-08-18
PRIOR PILING DATE: 2002-08-18
PRIOR PILING DATE: 2002-08-18
PRIOR PILING DATE: 2002-08-18
PRIOR PILING DATE: 2002-08-18
PRIOR PILING DATE: 2002-08-18
PRIOR PILING DATE: 2002-08-18
PRIOR PILING DATE: 2002-08-18
PRIOR PILING DATE: 2002-08-18
PRIOR PILING DATE: 2002-08-18
PRIOR PILING DATE: 2002-08-18
PRIOR PILING DATE: 2002-08-18
PRIOR PILING DATE: 2002-08-18
PRIOR PILING DATE: 2002-08-18
PRIOR PILING DATE: 2002-08-18
PRIOR PILING DATE: 2002-08-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Second 17. Application US/10411026
; Publication No. US/20040063911A1
; GENERAL INFORMATION:
APPLICANT: Neose Technologies, Inc.
APPLICANT: DeFrees, Shawn
; APPLICANT: Bayer, Robert
; APPLICANT: Hakes, David
GALACTOSIDASE A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 76.1%;
Best Local Similarity 85.1%;
Matches 370; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421 CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; TYPE: DNA
; ORGANISM: Homo sapiens
US-10-411-037-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-411-026-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 17, Application US/10411037
Publication No. US20040043446A1
GENERAL INFORMATION:
APPLICANT: Neose Technologies, Inc.
APPLICANT: Soff, David
APPLICANT: Bayer, Robert
APPLICANT: Hakes, David
APPLICANT: APPLICANT: APPLICANT: APPLICANT: The Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common Common C
                              APPLICANT: IATROU, KOSTAS
APPLICANT: BERRELL, PARTICK J.
APPLICANT: BERRELL, PARTICK J.
APPLICANT: BEHIE, Leo A.
ITILE OF INVENTION: SEQUENCES FOR IMPROVING THE EFFICIENCY OF SECRETION OF
ITILE OF INVENTION: NON-SECRETED PROTEINS FROM MAMMALIAN AND INSECT CELLS
ITILE OF INVENTION: NON-SECRETED PROTEINS FROM MAMMALIAN AND INSECT CELLS
FILE REPERENCE: 102812-207
CURRENT APPLICATION NUMBER: BARLIER APPLICATION NUMBER: 09/256,694
PRIOR APPLICATION NUMBER: BARLIER APPLICATION NUMBER: US 09/136,421
PRIOR FILING DATE: EARLIER FILING DATE: 1998-08-20
PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/056,871
PRIOR FILING DATE: EARLIER FILING DATE: 1997-08-21
NUMBER OF SEQ 1D NOS: 14
SOFTWARE: PALCHLIN VOY: 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 CGCTCGCCCAGCCCCAGCACCCTGGGAGCATGTGAATGCCATCCAGGAGGCCCGG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TCAGAAATGTTTGACCTCCAGGAGCCGACCTGCCTACAGACCCGCCTGGAGCTGTACAAG 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TACAAGCAGCACTGCCCCCCCCCCTGGAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      361 AAAAGTTTCAAAAAAAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGCAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361 gaaagirircaaagagaaccrgaaggacrircrgcrigrcarcccrirgacrgcrgcgagg 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      301 TACAAGCAGCACTCCCTCCAACCCGGAAACTTCCTGTGCAACCCAGATTATCACCTTT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 Argrescriccasasccrecrecrecrecreterescrictescrecascarcrecrecesce
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 331; DB 6; Length 435;
Pred. No. 7e-97;
0; Mismatches 65; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         76.1%;
85.1%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ccaerccaegaerea 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 370; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Similarity
   GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: DNA
ORGANISM: Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 9
US-10-411-037-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-083-590-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
Best Local 8
```

g ઠે g a

ઠે

셤 ð g G

ò

g

8

8 셤 ઠે

ö

Gaps ; 120

9

240

300

420

```
##FILICANT: Bowe, Caryn

ITILE OF INVENTION: GRANULCYTE COLONY STIMULATING FACTOR: REMODELING AND

ITILE OF INVENTION: GLYCOLONY STIMULATING FACTOR: REMODELING AND

ITILE OF INVENTION: GLYCOCONUGATION OF G-CSF

FILE REPERBUCE: 04085-01-5054

CURRENT APPLICATION NUMBER: US(10/410,962

PRIOR PLING DATE: 2003-04-09

PRIOR PLING DATE: 2001-10-10

PRIOR PLING DATE: 2001-10-10

PRIOR PLING DATE: 2001-10-10

PRIOR PLING DATE: 2001-07-07

PRIOR PRIOR APPLICATION NUMBER: US 60/391,777

PRIOR APPLICATION NUMBER: US 60/391,777

PRIOR APPLICATION NUMBER: US 60/391,777

PRIOR APPLICATION NUMBER: US 60/404,249

PRIOR PLING DATE: 2002-06-25

PRIOR PLING DATE: 2002-06-26

PRIOR PRIOR PRIOR DATE: 2002-06-26

PRIOR PRIOR PRIOR DATE: 2002-06-26

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIING DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR DATE: 2002-08-16

PRIOR PRIOR 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         181 TCAGAAATGTTTGACCTCCCAGGAGCCGACCTGCCTACAGACCCGGCTGGAGCTGTACAAG 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   361 GAAAGTITCAAAGAGAACCTGAAGAACITTCTGCTTGTCATCCCCTTTGACTGCTGGAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 CGCCAACCCAGCCCTGTCACTCGCCCTGGCAGGATGCCATCAAGGAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    301 TACAAGCAGCACTGCCCCCCCCCCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 435;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 76.1%; Score 331; DB 8; Length 43
Best Local Similarity 85.1%; Pred. No. 7e-97;
Matches 370; Conservative 0; Mismatches 65; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 12
US-10-411-049-17
Sequence 17, Application US/10411049
Publication No. US20040082026A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ccagrccaggagrga 435
Bayer, Robert
Hakes, David
                           Hakes, David
Chen, Xi
Bowe, Caryn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  , ORGANISM: Homo sapiens
US-10-410-962-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     à
                              THE
                 TITLE OF INVENTION: PROTEIN REMODELING METHODS AND PROTEINS/PEPTIDES PRODUCED BY THE OF INVENTION: METHODS
TITLE OF INVENTION: METHODS
TITLE OF INVENTION: METHODS
TITLE OF INVENTION: METHODS
TITLE OF INVENTION: METHODS
CURRENT APPLICATION NUMBER: US 60/328,523
PRIOR APPLICATION NUMBER: US 60/328,523
PRIOR FILING DATE: 2001-10-10
PRIOR PELICATION NUMBER: US 60/344,692
PRIOR PELICATION NUMBER: US 60/387,292
PRIOR PELICATION NUMBER: US 60/387,292
PRIOR PELING DATE: 2002-06-07
PRIOR APPLICATION NUMBER: US 60/391,777
PRIOR APPLICATION NUMBER: US 60/391,777
PRIOR APPLICATION NUMBER: US 60/404,249
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR PELICATION NUMBER: US 60/407,527
PRIOR PELICATION NUMBER: US 60/407,527
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
                              BY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 cecrceccaececaecacacacecreeaacerreeaacareraareccarecaaaaacecee 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TACAAGCAGCACTGCCCCCCACCCTGGAAACTTCCTGTGCAACCCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            361 GAAAGTITCAAAAGAAACCTGAAAGAACTITCTGCTIGTCATCCCCTITGACTGCTGGGAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 ATGIGGCTGCAGAACCTGCTTCTTCTGGGCACTGTGGTTTACAGCATGCCCGCACCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 76.1%; Score 331; DB 8; Length 435; Best Local Similarity 85.1%; Pred. No. 7e-97; Matches 370; Conservative 0; Mismatches 65; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 17, Application US/10410962
Publication No. US20040077836A1
GENERAL INFORMATION:
APPLICANT: Noose Technologies, Inc.
APPLICANT: DeFrees, Shawn
APPLICANT: Zopf, David
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        421 CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CCAGTCCAGGAGTGA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 11
US-10-410-962-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-10-411-026-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ID NO 17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
```

ò g ò අ ò 셤 ò a Š a ð g à 셤 8

```
PUBLICATION NO. US20040115168A1

GENERAL INFORMATION:

APPLICANT: Neces Technologies, Inc.

APPLICANT: Neces Technologies, Inc.

APPLICANT: DeFrees, Shawn

APPLICANT: DeFrees, Shawn

APPLICANT: AAPPLICANT: AAFE, David

APPLICANT: Hakes, David

APPLICANT: AAFE, David

APPLICANT: Gove, Caryn

TITLE OF INVENTION: INTERERON BETA: REMODELING AND GLYCOCONJUGATION OF INTERFERON

TITLE OF INVENTION: INTERER US 10410,930

CURRENT FILING DATE: 2003-04-09

FRICA PLICATION NUMBER: US 60/328,523

PRIOR PLICATION NUMBER: US 60/324,692

PRIOR PLICATION NUMBER: US 60/391,777

PRIOR APPLICATION NUMBER: US 60/391,777

PRIOR PLING DATE: 2002-06-07

PRIOR APPLICATION NUMBER: US 60/404,249

PRIOR PLING DATE: 2002-07-17

PRIOR APPLICATION NUMBER: US 60/407,527

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 CCCTCGCCCAGCCCCAGCAGCCTGAGAGCATGCCATCCAGGAGGCCCGG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61 CGCCAACCCAGCCCTGTCACTCGGCCCTGQCAGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           361 AAAAGTTTCAAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       241 caddecerdecedecedecercaecaadereaaddececerraacardardaeceaecae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TACAAGCAGCACTGCCCCCCCCCCTGGAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301 Tacaagcagcacrecerceaacceegaaacricergrecaaceaaarrareacerr 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361 GAAAGTITCAAAGAGAACCIGAAGGACIITCIGCIIGICAICCCIIIIGACIGCIGGGAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ..
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 8; Length 435;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match 76.1%; Score 331; DB 8; Length 43
Best Local Similarity 85.1%; Pred. No. 7e-97;
Matches 370; Conservative 0; Mismatches 65; Indels
Application US/10410930
No. US20040115168A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCAGTCCAGGAGTGA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; TYPE: DNA
; ORGANISM: Homo sápiens
US-10-410-930-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       d
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          쉱
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    엄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                  APPLICANT: Defrees, Shawn
APPLICANT: Defrees, Shawn
APPLICANT: Defrees, Shawn
APPLICANT: Bayer, Robert
APPLICANT: Bayer, Robert
APPLICANT: Bayer, Robert
APPLICANT: Bayer, Robert
APPLICANT: Bayer, Robert
APPLICANT: Bayer, Robert
APPLICANT: Bayer, Robert
APPLICANT: Bayer, Robert
TITLE OF INVENTION: INTERFERON ALPHA: REMODELING AND GLYCOCONJUGATION OF INTERFERON
TITLE OF INVENTION: ALPHA
TITLE OF INVENTION: ALPHA
FILE REFERENCE: 040853-01-5055
CURRENT PILING DATE: 2003-04-09
PRIOR FILING DATE: 2001-10-10
PRIOR PELLOCATION NUMBER: US 60/384,692
PRIOR FILING DATE: 2002-06-07
PRIOR FILING DATE: 2002-06-07
PRIOR FILING DATE: 2002-06-07
PRIOR FILING DATE: 2002-06-16
PRIOR PELLOCATION NUMBER: US 60/396,594
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-18
NUMBER OF SEQ ID NOS: 75
PRIOR FILING DATE: 2002-08-28
NUMBER OF SEQ ID NOS: 75
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TACAAGCAGCACTGCCCCCCCCCCTGGAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TACAAGCACTGCCCTCCAACCCCGGAAACTTCCTGTGCAACCCAGATTATCACCTTT 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              361 GAAAGTTTCAAAGAGAACCTGAAGGACTTTCTGCTTGTCATCCCCTTTGACTGCTGGGAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 ATGTGGCTGCAGAGCCTGCTGCTGCTTGGGCACTGTGGCCTGCAGCATCTCTGCACCCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   241 CAGGGCCTGCGGGGCAGCCTCACCAAGCTCAAGGGCCCCTTGACCATGATGGCCACCAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        361 AAAAGTTTCAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 8; Length 435,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 76.1%; Score 331; DB 8; Length 43 Best Local Similarity 85.1%; Pred. No. 7e-97; Matches 370; Conservative 0; Mismatches 65; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CCAGTCCAGGAGTGA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE: DNA
CORGANISM: Homo sapiens
US-10-411-049-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 13
US-10-410-930-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           421
```

g

ò g ò

셤 ò g

ద 8 g

ઠ

g

ò

ઠ

```
APPLICANT: Defrees, Shawn
APPLICANT: Defrees, Shawn
APPLICANT: Defrees, Shawn
APPLICANT: Zopf, David
APPLICANT: Zopf, David
APPLICANT: Active Control of the                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              241 cadedecridededededereaceaadereaadeeceerraacearaardadeeaacead 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361 AAAAGTTTCAAAAGAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 CGCCAACCCAGCCCTGTCACTCGGCCCTGGCATGTGGATGCCATCAAGGAGGCCCTG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TACAAGCAGCACTGCCCCCCCCCCTGGAAACTTCCTGTGCAACCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 ATGTGGCTGCAGAGCCTGCTCTTGGGCATGTGGCCTGCAGCATCTCTGCACCCGCC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 ATGIGGCIGCAGAACCIGCTICTICIGGGCACTGIGGTTTACAGCAIGCCCGCACCCACC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 435;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 76.1%; Score 331; DB 8; Length 43
Best Local Similarity 85.1%; Pred. No. 7e-97;
Matches 370; Conservative 0; Mismatches 65; Indels
                                                                                                                                                                                                       Sequence 17, Application US/10411012
Publication No. US20040132640A1
GENERAL INFORMATION:
APPLICANT: Neose Technologies, Inc.
421 CCAGTCCAGGAGTGA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; TYPE: DNA
; ORGANISM: Homo sapiens
US-10-411-012-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          유
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             õ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                     APPLICANT: DeFrees, Shawn
APPLICANT: DeFrees, Shawn
APPLICANT: DoFrees, Shawn
APPLICANT: Zopf, David
APPLICANT: Zopf, David
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Hakes, David
APPLICANT: Hakes, David
APPLICANT: Hakes, David
APPLICANT: Hakes, David
APPLICANT: Hakes, David
APPLICANT: Bowe, Caryn
TITLE OF INVENTION: FOLLICLE STIMULATING HORMONE: REMODELING AND GLYCOCONJUGATION OF
TITLE OF INVENTION: FOLLICLE STIMULATING HORMONE: REMODELING AND GLYCOCONJUGATION OF
TITLE OF INVENTION: FOLLICLE STIMULATING HORMONE: REMODELING AND GLYCOCONJUGATION OF
TITLE OF INVENTION: FOLLICLE STIMULATING HORMONE: US 60/328,523
FILE REFRENCE: 2001-10-10
PRIOR FILING DATE: 2001-10-10
PRIOR FILING DATE: 2002-06-07
PRIOR PELICATION NUMBER: US 60/391,777
PRIOR APPLICATION NUMBER: US 60/391,777
PRIOR PELING DATE: 2002-09-17
PRIOR FILING DATE: 2002-09-16
PRIOR FILING DATE: 2002-09-16
PRIOR FILING DATE: 2002-09-16
PRIOR FILING DATE: 2002-09-16
PRIOR PELING DATE: 2002-09-16
PRIOR PERIOR PELING DATE: 2002-09-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 CGCTCGCCCAGCCCCAGCACGCACGCCTGGGAGCATGTGAATGCCATCCAGGAGGCCCGG 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TCTGAAACGTTTGACGCCGAGGAGCTGACATGCCTGCAGACTCGCCTGAAGCTGTACAAA 240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CAGGGCTTGCGGGGCGCCTCATCAAGCTCGAAGGCCCCTTGACCATGATGGCCCACCAC 300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TACAAGCAGCACTGCCCCCCCACCCTGGAAACTTCCTGTGCAACCCCAGATGATCACCTTC 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TACAAGCAGCACTGCCCTCCAACCCCGGAAACTTCCTGTGCAACCCAGATTATCACCTTT 360
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             361 GAAAGTTTCAAAGAGAACCTGAAGGACTTTCTGCTTGTCATCCCCTTTGACTGCTGGGAG 420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAAAGTTTCAAAAAAAAACCTGAAGGATTTTCTGTTTGAGATCCCGTTTGACTGCTGGAAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CGCCAACCCAGCCCTGTCACTCGGCCCTGGCAGCATGTGGATGCCATCAAGGAGGCCCTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 331; DB 8; Length 435;
Pred. No. 7e-97;
0; Mismatches 65; Indels
                                                                                                     Sequence 17, Application US/10410997
Publication No. US20040126838A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQ ID NOS: 75
SOFTWARE: Patentin version 3.2
SEQ ID NO 1.7
LENGTH: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 85.1%;
Matches 370; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CCAGCCCAGAAGTAA 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ; ORGANISM: Homo sapiens
US-10-410-997-17
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    241
```

合

ઠે

엺

ઠે

g

ò

g

ò

q ò g ò

δ

361 GAAAGTTTCAAAGAAACCTGAAGGACTTTCTGCTTGTCATCCCCTTTGACTGCTGGGAG 420 දු දු

421 CCAGCCCAGAAGTAA 435 |||| ||| ||| || || || 421 CCAGTCCAGGAGTGA 435

g

Search completed: May 26, 2006, 01:41:32 Job time : 1034 secs

BEST AVAILABLE COPY

```
GenCore version 5.1.8 (c) 1993 - 2006 Biocceleration Ltd.
```

OM protein - protein search, using sw model

May 25, 2006, 15:01:08 ; Search time 50 Seconds Run on:

(without alignments) 252.088 Million cell updates/sec

US-10-614-481-9 759 1 MWLQNLLLLGTVVYSMPAPT........KNLKDFLFEIPFDCWKPAQK 144

Perfect score: Sequence:

BLOSUM62 Gapop 10.0 , Gapext 0.5 Scoring table:

650591 seqs, 87530628 residues Searched:

Total number of hits satisfying chosen parameters:

Minimum DB seq length: 0 Maximum DB seq length: 200000000

Post-processing: Minimum Match 0% Maximum Match 100% Listing first 45 summaries

Issued Patents AA:\* Database :

1: /EMC\_Celerra\_SIDSJ/ptodata/2/iaa/5\_COMB.pep:\*
2: /EMC\_Celerra\_SIDSJ/ptodata/2/iaa/6\_COMB.pep:\*
3: /EMC\_Celerra\_SIDSJ/ptodata/2/iaa/7\_COMB.pep:\*
4: /EMC\_Celerra\_SIDSJ/ptodata/2/iaa/H\_COMB.pep:\*
6: /EMC\_Celerra\_SIDSJ/ptodata/2/iaa/RCTUS\_COMB.pep:\*
6: /EMC\_Celerra\_SIDSJ/ptodata/2/iaa/RE\_COMB.pep:\*
7: /EMC\_Celerra\_SIDSJ/ptodata/2/iaa/RE\_COMB.pep:\*
7: /EMC\_Celerra\_SIDSJ/ptodata/2/iaa/RE\_COMB.pep:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

## SUMMARIES

Deci-1		* 6				
No.	Score	Match	Match Length DB	DB	Π	Description
1 .	759	100.0	144	2	US-09-589-460-9	Sequence 9, Appli
7	587	77.3	144	н	US-08-133-979A-11	T
c	587	77.3	144	ч	US-08-436-890-11	Sequence 11, Appl
4	587	77.3	144	ч	- 1	Ę
S	586	77.2	144	٦	US-08-284-393B-11	11
9	586	77.2	144	~	US-09-522-217-114	ä
7	586	77.2	144	7	US-09-923-246-114	114,
60	586	77.2	144	7	US-10-295-723-114	114,
6	586	77.2	144	7	US-10-282-622-10	10, A
10	586	77.2	144	2	PCT-US95-08950-11	11
11	586	77.2	334	~	US-09-555-165-9	6
12	586	77.2	334	~	US-09-555-165-11	Sequence 11, Appl
13	584	76.9	144	~	US-08-759-628-6	ý
14	578	76.2	143	~	US-09-617-594A-10	10,
15	578	76.2	143	~	US-10-209-507-10	10,
16	577	76.0	143	~	US-09-617-594A-8	å
17	577	76.0	143	7	US-10-209-507-8	ω
18	576	75.9	144	Н	US-08-259-696B-9	6
19	576	75.9	144	٦	US-08-902-513-9	ď
20	571	75.2	144	~	US-09-322-409-120	120
21	571	75.2	144	7	US-09-451-527-120	120,
22	571	75.2	144	m	US-10-262-439-120	120,
23	570.5	75.2	143	Н	US-08-259-696B-10	10, A
24	570.5	75.2	143	-	US-08-902-513-10	10,
25	266	74.6	144	Н	-08-	'n
56	266	74.6	144	н	US-08-902-513-1	ij

Patent No. 5229496	Patent No. 5391485	Sequence 10, Appl	Sequence 4, Appli	Sequence 4, Appli	4, 7	Patent No. 5405952	Patent No. 5229496	Seguence 142, App	Seguence 142, Apr	Seguence 142, Apr	Sequence 142, Apr	Sequence 142, Apr	Sequence 2, Appl:	Sequence 8, Appli	Patent No. 5229496	Sequence 160, App	Sequence 160, Apr	0 Sequence 160, App
5229496-4	5391485-4	US-08-318-193-10	US-09-146-283-4	US-08-579-823A-4	US-09-344-195-4	5405952-2	5229496-2	US-08-469-318-142	US-08-468-609A-142	US-08-446-872A-142	US-08-762-227A-142	PCT-US95-01185-142	US-08-318-193-2	US-09-462-941-8	5229496-15	US-08-469-318-160	US-08-468-609A-160	US-08-446-872A-160
7	7	3	7	2	~	7 7	7	7	7	7	7	5	7	7	7	2	3	2
13;	133	16	78	78:	78.	12,	131	30	30:	30:	30	30:	15.	15.	15.	120	120	12
70.2	70.2	70.1	70.1	70.1	70.1	70.0	70.0	70.0	70.0	70.0	70.0	70.0	69.4	69.4	69.4	69.4	69.4	69.4
533	533	532	532	532	532	531	531	531	531	531	531	531	527	527	527	527	527	527
27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

## ALIGNMENTS

```
61 SETFDAEELTCLQTRLKLYKQGLRGSLIKLBGPLTMMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            61 SETFDAEELICLOTRLKLYKOGLRGSLIKLEGPLIMMASHYKOHCPPTLETSCATOMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
0
                                                                                                                                                                                                                                                                                                                                                                                               Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                      100.0%; Score 75%; DB 2;
100.0%; Pred. No. 1.7e-82;
tive 0; Mismatches 0;
        Sequence 9, Application US/09589460
; Patent No. 6645740
; GENERAL INFORMATION:
; APPLICANT: Bublot, et al.
; TITLE OF INVENTION: Equine GM-CSF
; FILE REFERENCE: 454113-234.1
; CURRENT APPLICATION NUMBER: US/09/589,460
; CURRENT FILING DATE: 2000-06-07
; PRIOR APPLICATION NUMBER: 60/138,843
; SEQUENCE FILING DATE: 1999-06-10
; NUMBER OF SEQ ID NOS: 9
; SEQUENCE PATENTIN VERSION 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                          Query Match 100.
Best Local Similarity 100.
Matches 144; Conservative
                                                                                                                                                                                                                                                                                     ; LENGTH: 144
; TYPE: PRT
; ORGANISM: Equine sp.
US-09-589-460-9
US-09-589-460-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             8
```

ö

GENERAL INFORMATION:
APPLICANT: Hawley, Robert J.
APPLICANT: Ponath, Paul D.
APPLICANT: Rosa, Margaret D.
APPLICANT: Monroy, Rodney L.
APPLICANT: Monroy, Rodney L.
TITLE OF INVENTION: Enhancement of Xenograft Tolerance and Porcine Cytokines Theref 121 KSFKKNLKDFLFEIPFDCWKPAQK 144 US-08-133-979A-11; Sequence 11, Application US/08133979A; Patent No. 5589582 요

```
Sequence 11, Application US/08451213

Sequence 11, Application US/08451213

Patent No. 5863528

GENERAL INFORMATION:
APPLICANT: Hawley, Robert J.
APPLICANT: Honath, Paul D.
APPLICANT: Rosa, Margaret D.
APPLICANT: Monroy, Rodney L.
APPLICANT: Schacter, Bernice Z.
TITLE OF INVENTION: Enhancement of Xenograft Tolerance and Porcine Cytokines Therei NUMBER OF SEQUENCES: 24
CORRESPONDENCE ADDRESS:
ADDRESSEE: Carella, Byrne, Bain, Gilfillan, Cecchi, Stewart & Olstein
STREET: 6 Becker Farm Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 SETFDABELICLOTRLKLYKOGLRGSLIKLEGPLIWMASHYKOHCPPILETSCATOMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MWLQNLLILGTVVCSISAPTRPFSPVTRPWQHVDAIKEALSLLNNSNDTAAVMNETVDVV 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
77.3%; Score 587; DB 1; Length 14
Best Local Similarity 76.4%; Pred. No. 5.7e-62;
Matches 110; Conservative 13; Mismatches 21; Indels
          CURENT APPLICATION DATA:
APPLICATION NUMBER: US/08/436,890
FILING DATE: MAY 8, 1995
CLASSIFICATION: 514
ATTORNEY/AGENT INFORMATION:
NAME: Herron, Charles J.
REGISTRATION NUMBER: 28,019
REFERENCE/DOCKET NUMBER: 61750-139
TELECOMMUNICATION INFORMATION:
TELEPHONE: 201-994-1700
TELEPHONE: 201-994-1700
TELEPHONE: 201-994-1700
TELEPHONE: 201-994-1700
TELEPHONE: 201-994-1700
TELEPHONE: AND SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 144 AMINO ACIDS
TYPE: AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch diskette
COMPUTER: IBM PC COMPATIBLE
OPPERATING SYSTEM: MS-DOS 5.0
SOFTWARE: Word Perfect 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/451,213
FILING DATE: 26-MAY-1995
CLASSIFICATION: 435
PROOR APPLICATION: 435
PROOR APPLICATION NUMBER: 08/133,979
FILING DATE: October 8, 1993
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |||| :| ||| || ||||||| || :|
121 KSFKDSLNKFLFTIPFDCWGPVKK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME: Herron, Charles J. REGISTRATION NUMBER: 28,019
                                                                                                                                                                                                                                                                                                                                                                                                    STRANDEDNESS: SINGLE
TOPOLOGY: LINEAR
HYPOTHETICAL: YES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CITY: Roseland
STATE: New Jersey
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; ANTI-SENSE: NO
US-08-436-890-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ZIP: 07068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-08-451-213-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 11, Application US/08436890

Patent No. 585863

GENERAL INFORMATION:
APPLICANT: Hawley, Robert J.
APPLICANT: Rosa, Margaret D.
APPLICANT: Rosa, Margaret D.
APPLICANT: Schadter, Bernice Z.
TITLE OF INVENTION: Enhancement of Xenograft Tolerance and Porcine Cytokines There
NUMBER OF SEQUENCES: 24
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTWMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
        ADDRESSEE: Carella, Byrne, Bain, Gilfillan, Cecchi,Stewart & Olstein STREET: 6 Becker Farm Road CITY: Roseland STATE: New Jersey COUNTRY: USA ZIP: 07068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESSEE: Carella, Byrne, Bain, Gilfillan, Cecchi, Stewart & Olstein STREET: 6 Becker Farm Road CITY: Roseland STATE: New Jersey COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MWLQNLLLLGTVVCSISAPTRPPSPVTRPWQHVDAIKEALSLLNNSNDTAAVMNETVDVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        77.3%; Score 587; DB 1; Length 144; 76.4%; Pred. No. 5.7e-62; Itive 13; Mismatches 21; Indels
                                                                                                                                                                 COMPUTER READBLE FORM:

MEDIUM TYPE: 3.5 inch diskette
COMPUTER: IBM PC Compatible
COMPUTER: BM PC Compatible
OPERATING SYSTEM: MS-DOS 5.0
SOFTWARE: Word Perfect 5.1
CURRENT APPLICATION DATA:
APPLICATION NUMBER: U5/08/133,979A
FILING DATE: October 8, 1993
CLASSIFICATION: 435
ATTORNEY/AGRAT INFORMATION:
NAME: Herron, Charles J.
REGISTRATION NUMBER: 28,019
REFERENCE/DOCKET NUMBER: 28,019
REFERENCE/DOCKET NUMBER: 28,019
TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION SEQ 1D NO: TELEFAX: 201-994-1700
TELEFAX: 201-994-1706
TELEFAX: 201-994-1706
TELEFAX: 201-994-1706
TELEFAX: 201-994-1706
TELEFAX: 201-994-1706
TELEFAX: 201-994-1706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDIUM TYPE: 3.5 inch diskette
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: MS-DOS 6.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LENGTH: 144 AMINO ACIDS TYPE: AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 76.4*
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TOPOLOGY: LINEAR
HYPOTHETICAL: YES
ANTI-SPNGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM: MEDIUM TYPE: 3.5 inch
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          07068
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; ANTI-SENSE:
US-08-133-979A-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT 3
US-08-436-890-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            COUNTRY:
```

셤 ò g ઠ g us-10-614-481-9.rai

ö

9

```
61 SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTWMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61 SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MWLQSLLLLGTVACSISAPARSPSPSTQPWEHVNAIQEARRLLNLSRDTAAEMNETVEVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                      0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 144;
Best Local Similarity 76.4%; Pred. No. 7.5e-62;
Matches 110; Conservative 15; Mismardhes 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: NO. 30/10/24A, JULIA B.
APPLICANT: Spreenell, Scott R.
APPLICANT: Spreenel, Cindy A.
APPLICANT: Foster, Donald C.
APPLICANT: Foster, Donald C.
APPLICANT: Holly, Richard D.
APPLICANT: Holly, Richard D.
APPLICANT: Nelson, Jane A.
APPLICANT: Nelson, Andrew J.
APPLICANT: Hammond, Angela K.
APPLICANT: BOTHER: 199-16
CURRENT FILING DATE: 1999-03-09
EARLIER RPLING DATE: 1999-03-09
EARLIER PELLING DATE: 1999-03-11
EARLIER PELLING DATE: 1999-03-11
EARLIER PILING DATE: 1999-03-11
EARLIER FILING DATE: 1999-03-11
EARLIER FILING DATE: 1999-07-01
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          77.2%; Score 586; DB 2; L. 76.4%; Pred. No. 7.5e-62; iive 15; Mismatches 19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQ ID NOS: 115
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 114
                                                                                                                                                                                                                                                                                                                                                                    121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                          121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; Sequence 114, Application US/09923246; Patent No. 660527; GENERAL INFORMATION: APPLICANT: No. 6605272ak, Julia E.; APPLICANT: Presnell, Scott R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 114, Application US/09522217
Patent No. 6307024
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: No. 6307024ak, Julia E
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best Local Similarity 76.4 Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -09-522-217-114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-923-246-114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-522-217-114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                               ద
                                                                                                                                                                                                                                슝
                                                                                                                                                                                                                                                                                           d
                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 CEMFDPQEPTCVQTRLNLYKQGLRGSLTRLKSPLTLLAKHYEQHCPLTEETSCETQSITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MWLQNILLILGTVVCSISAPTRPPSPVTRPWQHVDAIKEALSLLNNSNDTAAVMNETVDVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                              77.3%; Score 587; DB 1; Length 144; 76.4%; Pred. No. 5.7e-62;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         77.2%; Score 586; DB 1; Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       21; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 11, Application US/08284393B
; Sequence 11, Application US/08284393B
; Patent No. 569234
; GENERAL INFORMATION:
APPLICANT: Zurawski, Sandra M.
APPLICANT: Zurawski, Gerard
TITLE OF INVENTION: MUTEINS OF MAMMALIAN CYTOKINES
NUMBER OF SEQUENCES: 16
CORRESPONDENCE ADDRESS:
ADDRESSEE: DNAX Research Institute
STREET: 901 California Avenue
CITY: Palo Alto
STATE: California
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ZIP: 94304-1104
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: ISM FC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/284,393B
FILING DATE: 01-AUG-1994
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   13; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61750-79
                        TELECOMMUNICATION INFORMATION:
TELEPHONE: 201-994-170
TELEFAX: 201-994-174
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
LENGTH: 144 AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS
TYPE: AMINO ACIDS

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATTORNEY/AGENT INFORMATION:
NAME: Ching, Edwin P.
REGISTRATION NUMBER: 34,090
REFRENCE/DOCKET NUMBER: DX03
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415-852-9196
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   34,090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TELEFAX: 415-496-1200
INFORMATION FOR SEQ ID NO: 11:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             76.48;
   REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           : 144 amino acids
amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Best Local Similarity 76.43
Matches 110; Conservative
                                                                                                                                                                                                                                                     TOPOLOGY: LINEAR POTHETICAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE: peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                    ANTI-SENSE: NO
                                                                                                                                                                                                                                                                                                                                 HYPOTHETICAL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-284-393B-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-284-393B-11
                                                                                                                                                                                                                                                                                                                                                                                     ,
US-08-451-213-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
```

ö

```
TYPE: PRT
ORGANISM: Homo sapiens
US-10-295-723-114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CITY: Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 9
US-10-282-622-10
LENGTH: 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Gross, Jane A.
APPLICANT: Gross, Jane A.
APPLICANT: Johnston, Janet V.
APPLICANT: Nelson, Andrew J.
APPLICANT: Dillon, Stacey R.
APPLICANT: Hammond, Angela K.
TILLE OF INVENTION: NOVEL CYTOKINE ZALPHAll LIGAND
FILE REFERENCE: 99-16
CURRENT APPLICATION NUMBER: US/09/923,246
CURRENT FILING DATE: 2001-08-03
PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US/09/522,217
PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/123,904
PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/123,904
PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/142,013
PRIOR FILING DATE: EARLIER APPLICATION NUMBER: US 60/142,013
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL INFORMATION:
APPLICANT: No. 6686178ak, Julia E.
APPLICANT: Pressell, Scott R.
APPLICANT: Sprecher, Gindy A.
APPLICANT: Sprecher, Gindy A.
APPLICANT: Grest Donald C.
APPLICANT: Grest, Jane A.
APPLICANT: Holly, Richard D.
APPLICANT: Hollon, Stacey R.
APPLICANT: Dillon, Stacey R.
APPLICANT: Dillon, Stacey R.
APPLICANT: Hammond, Angela K.
APPLICANT: Hammond, Angela K.
APPLICANT: Billon, Stacey R.
APPLICANT: Hammond, Angela K.
APPLICANT: Hammond, Angela K.
APPLICANT: Hammond, Angela K.
APPLICANT: BILLON NUMBER: US/10/295,723
CURRENT PILING DATE: 2000-03-09
PRIOR APPLICATION NUMBER: US 60/123,547
PRIOR APPLICATION NUMBER: US 60/123,547
PRIOR APPLICATION NUMBER: US 60/123,547
PRIOR APPLICATION NUMBER: US 60/123,547
PRIOR APPLICATION NUMBER: US 60/123,547
PRIOR APPLICATION NUMBER: US 60/123,547
PRIOR APPLICATION NUMBER: US 60/123,547
PRIOR APPLICATION NUMBER: US 60/123,547
PRIOR APPLICATION NUMBER: US 60/123,547
PRIOR APPLICATION NUMBER: US 60/123,547
PRIOR APPLICATION NUMBER: US 60/123,547
PRIOR APPLICATION NUMBER: US 60/123,547
PRIOR APPLICATION NUMBER: US 60/123,547
PRIOR APPLICATION NUMBER: US 60/123,547
PRIOR APPLICATION NUMBER: US 60/123,547
PRIOR APPLICATION NUMBER: US 60/123,547
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    77.2%; Score 586; DB 2; 76.4%; Pred. No. 7.5e-62;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: FastSEQ for Windows Version 3.0 SEQ ID NO 114 LENGTH: 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SEQ ID NOS: 115
SOFTWARE: FantSEQ for Windows Version 3.0
SEQ ID NO 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-10-295-723-114
; Sequence 114, Application US/10295723
; Patent No. 6686178
  Cindy A
                          Foster, Donald C.
Holly, Richard D.
Gross, Jane A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; ORGANISM: Homo sapiens US-09-923-246-114
Sprecher,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
```

```
ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                                                                                                                                                       61 SETFDAEELICLOTRLKLYKOGLRGSLIKLEGPLIWMASHYKOHCPPTLETSCATOMITF 120
                                                                                                                                                                                           61 SETFDAEELICLOTRLKLYKOGLRGSLIKLEGPLIMMASHYKOHCPPTLETSCATOMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                      9
                                                                                                                             9
                                                                                                              61 SEMFDLQEPTCLQTRLELYKQGLRGSLTKLKGPLTWMASHYKQHCPPTFETSCATQIITF
                                                                                   1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 77.2%; Score 586; DB 2; Length 144; 76.4%; Pred. No. 7.5e-62; Live 15; Mismatches 19; Indels
    Length 144;
                                              19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Zurawski, Sandra M.
APPLICANT: Zurawski, Gerard
AITLE OF Zurawski, Gerard
AITLE OF INVENTION: MUTEINS OF MANMALIAN CYTOKINES
NUMBER OF SEQUENCES: 13
CORRESPONDENCE ADDRESS:
CARRESTE: 901 California Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION:
APPLICANT: Presnell, Scott R.
APPLICANT: West, Janes W.
APPLICANT: West, Janes W.
TITLE OF INVENTION: ZALPHAIL LIGAND ANTAGONISTS
FILLE REFERENCE: 01-37
CURRENT APPLICATION NUMBER: US/10/282,622
CURRENT FILING DATE: 2002-10-28
PRIOR PLILING DATE: 2001-11-05
NUMBER OF SEQ ID NOS: 30
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 10
LENGTH: 144
; Score 586; DB 2;
; Pred. No. 7.5e-62;
15; Mismatches 19
                                                                                                                                                                                                                                                                                   :|||:|||||| |||||| ||
121 ESFKENLKDFLLVIPFDCWEPVQE 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 10
PCT-US95-08950-11
PCT-US95-08950-11
PCT-US95-08950
PCT-US95-08950
PCT-US95-08950
PCT-US95-08950
                                                                                                                                                                                                                                                                                                                                                                                                      ; Sequence 10, Application US/10282622
; Patent No. 6929932
    77.2%;
    Query Match
Best Local Similarity 76.4
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-282-622-10
```

0; Gaps

```
61 SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 SEMFDLQEPTCLQTRLELYKQGLRGSLTKLKGPLTWMASHYKQHCPPTPETSCATQIITF 120
                                                                                                                                                                                                                                                                             61 SETFDAEELTCLOTRLKLYKOGLRGSLIKLEGPLTMMASHYKOHCPPTLETSCATOMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MWLQSLLLLGTVACSISAPARSPSPSTQPWEHVNAIQEARRLLNLSRDTAAEMNETVEVI 60
                                                                                                                                                                           1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                        1 MWLQSLLLLGTVACSISAPARSPSPSTQPWEHVNAIQEARRLLNLSRDTAAEMNETVEVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CTHER INFORMATION: Artifically synthesized human GM-CSF-human mpl CTHER INFORMATION: fusion protein sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 6, Application US/08759628
Patent No. 6225446
GENERAL INFORMATION:
APPLICANT: APPLICANT: Rock, Fernando L.
APPLICANT: Razan, J. Fernando L.
APPLICANT: Kastelain, Robert A.
TITLE OF INVENTION: MUTATIONAL VARIANTS OF MAMMLIAN PROTEINS
                                                                          Length 334;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 334;
                                                                       Query Match 77.2%; Score 586; DB 2; Length 33 Best Local Similarity 76.4%; Pred. No. 2.6e-61; Matches 110; Conservative 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 77.2%; Score 586; DB 2; Length 33 Best Local Similarity 76.4%; Pred. No. 2.6e-61; Matches 110; Conservative 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Kitamura, Toshio
APPLICANT: Kitamura, Toshio
APPLICANT: Kojima, Tetsuo
ITILE OF INVENTION: SIGNAL SEQUENCE TRAPPING METHOD
FILE REFERENCE: 06501-061001
CURRENT APPLICATION NUMBER: US/09/555,165
CURRENT APPLICATION NUMBER: US/09/555,165
PRIOR APPLICATION NUMBER: P9/324912
PRIOR PILING DATE: 1997-11-26
PRIOR FILING DATE: 1997-11-26
NUMBER OF SEQ ID NOS: 15
SOFTWARE: PSECSO for Windows Version 4.0
IENGTH: 334
OTHER INFORMATION: fusion protein sequence
                                                                                                                                                                                                                                                                                                                                                                                  121 KSFKKNLKDFLFEIPFDCWKPAOK 144
                                                                                                                                                                                                                                                                                                                                                                                                         121 KSFKKNLKDFLFEIPFDCWKPAOK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 11, Application US/09555165
Patent No. 6866998
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-09-555-165-11
          ; UTHER INFORMUS-09-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-759-628-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 13
                                                                                                                                                                                                                                                                                                                                                                               ð
                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 SEMFDLOGEPTCLOTRLELYKOGLRGSLTKLKGPLTMMASHYKOHCPPTPETSCATOLITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  61 SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTWMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 MWLQSLLLLGTVACSISAPARSPSPSTQPWEHVNAIQEARRLLNLSRDTAAEMNETVEVI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LOCATION: (1)...(17)
OTHER INFORMATION: Artifically synthesized human GM-CSF-human mpl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: Kitamura, Toshio
APPLICANT: Kitamura, Toshio
APPLICANT: Kojima, Tetsuo
TILE OF INVENTION: SIGNAL SEQUENCE TRAPPING METHOD
FILE REPERBNCE: 06501-061001
CURRENT APPLICATION NUMBER: US/09/555,165
CURRENT FILING DATE: 2000-05-28
PRIOR APPLICATION NUMBER: UP 9/324912
PRIOR PILING DATE: 1997-11-26
PRIOR PILING DATE: 1997-11-26
PRIOR FILING DATE: 1998-11-26
NUMBER OF SEQ ID NOS: 15
SOFTWARE: FastSEQ for Windows Version 4.0
LENGTH: 334
                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC Compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ; Score 586; DB 5;
; Pred. No. 7.5e-62;
15; Mismatches 19
                                                                                                                                                                                                                                                                     CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/284,393
FILING DATE: 01-AUG-1994
ATTORNEY/AGENT INFORMATION:
NAME: Ching, Edwin P.
REGISTRATION NUMBER: 34,090
REFERENCE/DOCKET NUMBER: 34,090
TELECHONE: 415-95996
TELEPHONE: 415-496-1200
                                                                                                                                                                                              CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US95/08950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121 KSFKKNLKDFLFEIPFDCWKPAOK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 9, Application US/09555165
Patent No. 6866998
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INFORMATION FOR SEQ ID NO: 11: SEQUENCE CHARACTERISTICS: LENGTH: 144 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 77.2%;
Best Local Similarity 76.4%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MOLECULE TYPE: protein
California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          linear
                                               94304-1104
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY: SIGNAL
                                                                                                                                                                                                                                                     FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PCT-US95-08950-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-555-165-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
```

ö

Gaps

ö

```
US-LOCATION OF APPLICATION US/10209507

; Sequence 10, Application US/10209507
; Patent No. 6914134
; GENERAL INFORMATION:
; PAPLICANT: Audomnet, et al.
; TITLE OF INVENTION: FELINE CALICIVIRUS GENES AND VACCINES IN PARTICULAR RECOMBINANT VI
; FILE REFERENCE: 454313-3151.2
; CURRENT APPLICATION NUMBER: US/10/209,507
; CURRENT FILING DATE: 2000-07-14
; PRIOR APPLICATION NUMBER: 60/193,332
; PRIOR APPLICATION NUMBER: 60/193,332
; PRIOR PILING DATE: 2000-03-30
; PRIOR PILING DATE: 2000-03-11
; PRIOR FILING DATE: 2000-02-11
; PRIOR FILING DATE: 1909-07-16
; NUMBER OF SEQ ID NOS: 26
; SOFTWARE: PatentIn Version 3.0
; SEQ ID NOS: 26
; SOFTWARE: PatentIn Version 3.0
                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                                           61 SETFDABELICLOTRIKLYKOGLRGSLIKLEGPLIMMASHYKOHCPPTLETSCATOMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                        9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              9
                                                                                                                                                                                                                                                                                                     1 MWLQNLLFLGTVVCSISAPTSSPSSVTRPWQHVDAIKEALSLLNNSSEITAVMNEAVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 MWLQNLLFLGTVVCSISAPTSSPSSVTRPWQHVDAIKEALSLLNNSSSITAVMNEAVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                           1 MWLQNLLLLCTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        76.2%; Score 578; DB 2; Length 143; 76.9%; Pred. No. 5.7e-61; tive 9; Mismatches 24; Indels
                                                                                                                                                                                Length 143;
                                                                                                                                                                                76.2%; Score 578; DB 2; Length 14:
76.9%; Pred. No. 6.7e-61;
cive 9; Mismatches 24; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |:||:||:||||||| |||||| : 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121 KSFKKNLKDFLFEIPFDCWKPAQ 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121 KSFKKNLKDFLFEIPFDCWKPAQ 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Search completed: May 25, 2006, 15:02:32
Job time : 51 secs
NUMBER OF SEQ ID NOS: 26
SOFTWARE: PatentIn version 3.0
SEQ ID NO 10
LENGTH: 143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Best Local Similarity 76.9
Matches 110; Conservative
                                                                                                                                                                                                                             Matches 110; Conservative
                                                                                                                                                                                     Query Match
Best Local Similarity
                                                                                          ; TYPE: PRT
; ORGANISM: Felis sp.
US-09-617-594A-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
ORGANISM: Felis sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-209-507-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-10-209-507-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                ð
                                                                                                                                                                                                                                                                                                                                                                     ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: AUGOMATION:
APPLICANT: Audomnet, et al.
TITLE OF INVENDATION:
FILE REPERBNCE: 454313-3151.1
CURRENT APPLICATION NUMBER: US/09/617,594A
CURRENT FILING DATE: 2000-00-14
PRIOR APPLICATION NUMBER: 60/193,332
PRIOR FILING DATE: 2000-03-30
PRIOR PILING DATE: 2000-03-10
PRIOR PILING DATE: 2000-02-11
PRIOR PILING DATE: 2000-02-11
PRIOR FILING DATE: 2000-02-11
PRIOR FILING DATE: 2000-02-11
PRIOR FILING DATE: 1999-07-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 SEMFDLQEPTCLQTRLELYKQGLRGSLTKLKGPLTMMASHYKQHCPFTPETSCATQTITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MWLQSLLLLGTVACSISAPARSPSPSTQPWEHVNAIQEARRLLNLSRDTAAEMNETVEVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20; Indels
                                                                                                                                                        ZIP: 94304-1104
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/759,628
FILING DATE: 05-DEC-1996
CLASSIFICATION: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LOCATION: 18..144
OTHER INFORMATION: /note= "peptide of Figure 1"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            76.9%; Score 584; DB 2; 76.4%; Pred. No. 1.3e-61;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         14; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                    PRIOR APPLICATION 1973

PRIOR APPLICATION NUMBER: US 60/008,574

FILING DATE: 06-DEC-1995

ATTORNEY/AGENT INFORMATION:
NAME: Ching, Edwin P.
REGISTRATION NUMBER: 34,090

REFERENCE/DOCKET NUMBER: DX0552Q

TELECOMMUNICATION INFORMATION:
TELECOMMUNICATION 115-622-9196

TELEPHONE: 415-622-9196

INFORMATION FOR SEQ 1D NO: 6:
SEQUENCE CHARACTERISTICS:
  NUMBER OF SEQUENCES: 11
CORRESPONDENCE ADDRESS:
DAMX Research Institute
STREET: 901 California Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  :|||:|||||||
ESFKENLKDFLLVIPFDCWEPVQE 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-617-594A-10
; Sequence 10, Application US/09617594A
; Patent No. 6541458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           : 144 amino acids
amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity 76.48
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TOPOLOGY: linear MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRANDEDNESS: single
                                                                                          CITY: Palo Alto
STATE: California
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: Peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-08-759-628-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
```

셤

ò

ద ò

Q

```
TYPE: PRT
CORGANISM: Equine sp
US-10-614-481-9
LENGTH: 144
121
  요
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   원
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 9, Appli sequence 114, App Sequence 116, Appl Sequence 117, Appl Sequence 117, Appl Sequence 118, A
                                                                                                                                       May 25, 2006, 15:12:58; Search time 177 Seconds (without alignments) 376.853 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 /EMC_Celerra_SIDS3/ptodata/2/pubpaa/US07_PUBCOMB.pep:*
/EMC_Celerra_SIDS3/ptodata/2/pubpaa/US08_PUBCOMB.pep:*
/EMC_Celerra_SIDS3/ptodata/2/pubpaa/US09_PUBCOMB.pep:*
/EMC_Celerra_SIDS3/ptodata/2/pubpaa/US10A_PUBCOMB.pep:*
/EMC_Celerra_SIDS3/ptodata/2/pubpaa/US10B_PUBCOMB.pep:*
/EMC_Celerra_SIDS3/ptodata/2/pubpaa/US10B_PUBCOMB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed and is derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                  759
1 MWLQNLLLLGTVVYSMPAPT......KNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Description
                     GenCore version 5.1.8 (c) 1993 - 2006 Biocceleration Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-614-481-9

US-09-923-246-114

US-10-285-223-114

US-10-131-985-15

US-10-131-985-15

US-10-131-985-15

US-10-131-985-15

US-10-411-035-18

US-10-411-026-18

US-10-447-315-19

US-10-447-315-19

US-10-441-095-18

US-10-441-095-18

US-10-411-012-18

US-10-411-012-18

US-10-411-012-18

US-10-411-012-18

US-10-411-012-18

US-10-659-295-27

US-10-666-122-3

US-10-666-122-3

US-10-666-122-3

US-10-666-122-3

US-10-666-122-3

US-10-668-845-83

US-10-668-845-83

US-10-668-845-83

US-10-668-123-8

US-10-668-123-8

US-10-668-123-8

US-10-668-123-8

US-10-913-141-15
                                                                                                                                                                                                                                                                                                                                                                                                                  Total number of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Published_Applications_AA_Main:*
                                                                                                                                                                                                                                                                                                                                                                            2097797 segs, 463214858 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
                                                                                                      - protein search, using sw model
                                                                                                                                                                                                                                                                                                               BLOSUM62
Gapop 10.0 , Gapext 0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Minimum DB seq length: 0
Maximum DB seq length: 2000000000
                                                                                                                                                                                                                              US-10-614-481-9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match Length
                                       Copyright
                                                                                                                                                                                                                                                  Perfect score:
                                                                                                                                                                                                                                                                                                               Scoring table:
                                                                                                      OM protein
                                                                                                                                                                                                                                                                      Sequence:
                                                                                                                                                                                                                                                                                                                                                                               Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Database
                                                                                                                                              Run on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Result
No.
```

```
61 SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           61 SETFDAEELTCLQTRLKLYKQGLRGSLIKLBGPLTWMASHYKQHCPPTLETSCATQMITF 120
        18, Appl
118, Appl
27, Appl
447, App
448, App
540, App
10, Appl
10, Appl
11, Appl
12, Appl
13, Appl
14, Appl
16, Appl
17, Appl
18, Appl
19, Appl
10, Appl
11,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MWLONLLLLGTVVYSMPAPTROPSPVTRPWOHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                          Sequence
Sequence
Sequence
Sequence
Sequence
Sequence
                                                                                                                                                             Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence
                                                                                    Sequence
                                                                                                                        Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Seguence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ô
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 100.0%; Score 759; DB 5; Best Local Similarity 100.0%; Pred. No. 3.1e-78; Matches 144; Conservative 0; Mismatches 0;
US-10-410-897-18
US-10-492-161-18
US-10-880-101A-27
US-10-775-204-447
US-10-775-204-648
US-10-775-204-648
US-11-175-204-648
US-11-175-204-648
US-11-175-204-648
US-11-183-205-18
US-10-775-204-324
US-10-775-204-324
US-10-031-157-181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-11-201-384-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-925-205-6
US-10-937-658-3
US-11-066-480-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 9, Application US/10614481
| Publication No. US20050059121A1
| GENERAL INFORMATION:
| APPLICANT: Bublot, et al.
| TITLE OF INVENTION: Equine GM-CSF
| FILE REFERENCE: 454313-2334.1
| CURRENT FILING DATE: 2003-07-07
| PRIOR PILING DATE: 2003-07-07
| PRIOR PILING DATE: 2000-06-07
| PRIOR PILING DATE: 2000-06-07
| PRIOR PILING DATE: 1999-06-10
| NUMBER OF SEQ ID NOS: 9
| SOFTWARE: Patentin version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ALIGNMENTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 2
US-09-923-246-114
Sequence 114, Application US/09923246
Fatent No. US20020128446A1
APPLICANT: No. US20020128446A1ak, Julia E.
APPLICANT: Presnell, Scott R.
APPLICANT: Foster, Cindy A.
APPLICANT: Foster, Cindy A.
APPLICANT: Holly, Richard D.
APPLICANT: Holly, Richard D.
APPLICANT: Gross, Jane A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   щ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KSFKKNLKDFLFEIPFDCWKPAQK
```

```
g
                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       임
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Nolson, Andrew J.
APPLICANT: Dillon, Stacey R.
APPLICANT: Dillon, Stacey R.
TITLE OF INVENTION: NOVEL CYTOKINE ZALPHAll LIGAND
FILE REPERENCE: 99-16
CURRENT APPLICATION NUMBER: US/09/923,246
CURRENT PILING DATE: 2001-08-03
PRIOR APPLICATION NUMBER: BARLIER APPLICATION NUMBER: US 60/123,904
PRIOR FILING DATE: EARLIER FILING DATE: 1999-03-09
PRIOR FILING DATE: EARLIER FILING DATE: 1999-03-11
PRIOR APPLICATION NUMBER: EARLIER APPLICATION NUMBER: US 60/123,904
PRIOR FILING DATE: EARLIER FILING DATE: 1999-07-01
NUMBER OF SEQ ID NOS: 115
SOFWARE: FASISE FILING DATE: 1999-07-01
SEQ ID NO 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              77.2%; Score 586; DB 3; Length 144; 76.4%; Pred. No. 1.8e-58; Live 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GENERAL INFORMATION:

GENERAL INFORMATION:

APPLICANT: Presnell, Scott R.

APPLICANT: Presnell, Scott R.

APPLICANT: Sprecher, Cindy A.

APPLICANT: Foster, Donald C.

APPLICANT: Gores, Jane A.

APPLICANT: Gross, Jane A.

APPLICANT: Melson, Andrew J.

APPLICANT: Melson, Andrew J.

APPLICANT: Melson, Andrew J.

APPLICANT: Dillon, Stacey R.

APPLICANT: Hellon, Stacey R.

APPLICANT: Dillon, Stacey R.

APPLICANT: Hellon, NOVEL CYTOKINE ZALPHAII LIGAND

FILE REFERENCE: 99-16

CURRENT PLILIG DATE: 2002-11-15

PRIOR APPLICATION NUMBER: US 60/123,547

PRIOR APPLICATION NUMBER: US 60/123,547

PRIOR PLILING DATE: 1999-03-09

PRIOR PLILING DATE: 1999-03-09

PRIOR PLILING DATE: 1999-03-01

PRIOR PLILING DATE: 1999-07-01

NUMBER OF SEQ ID NOS: 115

SOFTWARE: PRESENCE: 1999-07-01

NUMBER OF SEQ ID NOS: 115

SEGO ID NO 1144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-10-295-723-114; Sequence 114, Application US/10295723; Publication No. US20030125524A1
Johnston, Janet V.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity 76.4%
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                             ; ORGANISM: Homo sapiens
US-09-923-246-114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-295-723-114
                                                                                                                                                                                                                                                                                                                                                                                                             TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                셤
```

```
ö
                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               61 SETFDABELICLQTRLKLYKQGLRGSLIKLEGPLTWMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                          61 SETFDAEELICLOTRLKLYKOGLRGSLIKLEGPLIMMASHYKOHCPPTLETSCATOMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             9
                                                                                                                                          9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV 60
                                                                                                                         1 MWLQSLLLLGTVACSISAPARSPSPSTQPWEHVNAIQEARRLLNLSRDTAAEMNETVEVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0
                                                  ô
77.2%; Score 586; DB 4; Length 144; 76.4%; Pred. No. 1.8e-58; Live 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       77.2%; Score 586; DB 4; 76.4%; Pred. No. 1.8e-58; tive 15; Mismatches 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT: Presnell, Scott R.
APPLICANT: West, James W.
APPLICANT: No. US20030134390Alak, Julia E.
TITLE OF INVENTION: ZALFHAll LIGAND ANTAGONISTS
FILE REPERENCE: 01-37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION NUMBER: US/10/282,622
CURRENT FILING DATE: 2002-10-28
PRIOR APPLICATION NUMBER: 60/337,586
PRIOR FILING DATE: 2001-11-05
NUMBER OF SEQ ID NOS: 30
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 10
LENGTH: 144
TYPE: PRI
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Dack, Kevin N
APPLICANT: Davies, Michael J
APPLICANT: Fish, Paul V
APPLICANT: Fish, Paul V
APPLICANT: Huggins, Jonathan P
APPLICANT: Occleston, Fraser S
APPLICANT: Occleston, Nicholas L
TITLE OF INVENTION: Composition
FILE REFERENCE: PCS 10391A
CURRENT APPLICATION NUMBER: US/10/131,985
CURRENT APLICATION DATE: 2002-04-25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION NUMBER: US/09/726,295
                                                                                                                                                                                                                                                                                                            121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; Sequence 15, Application US/10131985; Publication No. US20030199440A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                        ; Sequence 10, Application US/10282622; Publication No. US20030134390A1; GENERAL INFORMATION:
  Query Match
Best Local Similarity 76.4'
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 76.4
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                RESULT 4
US-10-282-622-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-10-282-622-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-10-131-985-15
```

```
GREKAL INCOMMINION:

APPLICANT: Noce Technologies, Inc.

APPLICANT: DeFrees, Shawn

APPLICANT: Zopf, David

APPLICANT: Zopf, David

APPLICANT: Copf, David

APPLICANT: Hakes, David

APPLICANT: Hakes, David

APPLICANT: Chen, Xi

APPLICANT: NUMER: US/10/411,037

CURRENT PAPLICATION NUMBER: US/0/328,523

PRIOR PRILING DATE: 2001-10-19

PRIOR FILING DATE: 2001-10-19

PRIOR FILING DATE: 2002-06-07

PRIOR APPLICATION NUMBER: US 60/391,777

PRIOR PAPLICATION NUMBER: US 60/396,594

PRIOR PLING DATE: 2002-06-16

PRIOR PLING DATE: 2002-08-16

PRIOR PLING DATE: 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61 SETFDABELTCLQTRLKLYKQGLRGSLIKLEGPLTWMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 MWLQSLLLLGTVACSISAPARSPSPSTQPWEHVNAIQEARRLLNLSRDTAAEMNETVEVI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 77.2%; Score 586; DB 4; Length 14 Best Local Similarity 76.4%; Pred. No. 1.8e-58; Matches 110; Conservative 15; Mismatches 19; Indels
                        APPLICANT: Hughes, Steven D.
APPLICANT: Hughes, Steven D.
APPLICANT: Hughes, Steven D.
TITLE OF INVENTION: USE OF IL-21 IN CANCER AND
TITLE OF INVENTION: OTHER THERAPEUTIC APPLICATIONS
FILE REFERENCE: 03-08
CURRENT APPLICATION NUMBER: US/10/456,780
CURRENT FILING DATE: 2003-06-06
PRIOR FILING DATE: 2002-06-07
NUMBER OF SEQ ID NOS: 17
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 10
LENGTH: 144
TYPE: PRT
TYPE: RT
TYPE: RT
CORANISM: Homo sapiens
US-10-456-780-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 18, Application US/10411037; Publication No. US20040043446A1; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 217, Application US/10116275
; Sequence 217, Application US/10116275
; Publication No. US20030211476A1
; Publication No. US20030211476A1
; Publication No. US20030211476A1
; Publicant: O'Mahory, Daniel J.
APPLICANT: Daniel J.
APPLICANT: Lambkin, Imeda
APPLICANT: Lambkin, Imeda
APPLICANT: Lambkin, Imeda
APPLICANT: Lambkin, Imeda
TITLE OF INVENTION: Compositions Targeting Peyer's Patches and M Cells and
TITLE OF INVENTION: Compositions Targeting Peyer's Patches and M Cell Receptors
FILE REPERENCE: E1067/2008 US/10/116,275
CURRENT FILING DATE: 2002-10-04
NUMBER OF SEQ ID NOS: 349
; SOFTWARE: PatentIn version 3.1
; SEQ ID NO 217
LENGTH: 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 SETFDAEELICLOTRIKLYKQGLRGSLIKLEGPLTWMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61 SEMFDLQEPTCLQTRLELYKQGLRGSLTKLKGPLTMMASHYKQHCPPTPETSCATQIITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                61 SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MWLQSLLLLGTVACSISAPARSPSPSTQPWEHVNAIQEARRLLNLSRDTAARMNETVEVI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match 77.2%; Score 586; DB 4; Length 144; Best Local Similarity 76.4%; Pred. No. 1.8e-58; Matches 110; Conservative 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                           Query Match
77.2%; Score 586; DB 4; Length 144;
Best Local Similarity 76.4%; Pred. No. 1.8e-58;
Matches 110; Conservative 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             :|||:|||||| |||||:|| |:
ESFKENLKDFLLVIPFDCWEPVQE 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEKENLKDFLLVIPFDCWEPVQE 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         121 KSFKKNLKDFLFEIPFDCWKPAOK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        KSFKKNLKDFLFEIPFDCWKPAQK 144
PRIOR FILING DATE: 2000-11-30
PRIOR PEDLICATION NUMBER: GB 9930768.8
PRIOR FILING DATE: 1999-12-29
NUMBER OF SEQ ID NOS: 60
SOFTWARE: PATENTIN Ver. 2.1
SEQ ID NO 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-10-456-780-10; Sequence 10, Application US/10456780; Publication No. US20040009150A1
                                                                                                                                                                                                                                        TYPE: PRT
, ORGANISM: Homo sapiens
US-10-131-985-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; ORGANISM: Homo sapiens
US-10-116-275-217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-10-116-275-217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     셤
```

```
61 SETFDAEELTCLOTRLKLYKQGLRGSLIKLBGPLTWMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      61 SETFDAEELTCLGTRLKLYKQGLRGSLIKLEGPLTWMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 MWLQSLLLLGTVACSISAPARSPSPSTQPWEHVNAIQEARRLLNLSRDTAAEMNETVEVI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      .;
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               77.2%; Score 586; DB 4; Length 144; 76.4%; Pred. No. 1.8e-58; rive 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 144;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 77.2%; Score 586; DB 4; Length 14 Best Local Similarity 76.4%; Pred. No. 1.8e-58; Matches 110; Conservative 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence 19, Application US/10447315;
Publication No. US20040071687A1
GENERAL INFORMATION:
APPLICANT: Haisig, Beate
APPLICANT: Haisig, Beate
APPLICANT: Hattori, Koichi
TITLE OF INVENTION: Adult Stem Cell Recruitment;
FILE REFERENCE: 1676.006US1
CURRENT APPLICATION NUMBER: US/10/447,315
CURRENT PILING DATE: 2003-05-28
PRIOR FILING DATE: 2002-05-28
CURRENT FILING DATE: 2003-04-09
PRIOR APPLICATION NUMBER: US 60/328,523
PRIOR FILING DATE: 2001-10-10
PRIOR FILING DATE: 2001-10-19
PRIOR FILING DATE: 2001-10-19
PRIOR FILING DATE: 2001-10-19
PRIOR APPLICATION NUMBER: US 60/391,292
PRIOR FILING DATE: 2002-06-07
PRIOR FILING DATE: 2002-06-25
PRIOR FILING DATE: 2002-06-25
PRIOR FILING DATE: 2002-06-17
PRIOR FILING DATE: 2002-06-17
PRIOR APPLICATION NUMBER: US 60/404,249
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-16
PRIOR FILING DATE: 2002-08-18
SEQ ID NO 18
LENGTH: 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF SEQ ID NOS: 28
SOFTWARE: FastSEQ for Windows Version 4.0
SEQ ID NO 19
LENGTH: 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121 KSFKKNIKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121 ESFKENLKDFLLVIPFDCWEPVQE 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity 76.4
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; ORGANISM: Homo sapiens
US-10-447-315-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-447-315-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-411-026-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              à
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Yu, Zailin
APPLICANT: Yu, Zailin
APPLICANT: Yu, Zailin
APPLICANT: Yu, Zailin
APPLICANT: Fu, Yan
TITLE OF INVENTION: RECOMBINANT HUMAN ALBUMIN FUSION PROTEINS WITH LONG-LASTING BIOLC
TITLE OF INVENTION: EFFECTS
FILE REFERENCE: ZVU-0603
CURRENT APPLICATION NUMBER: US/10/609,346
CURRENT FILING DATE: 2003-06-26
PRIOR APPLICATION NUMBER: US 60/392,948
NUMBER OF SEQ ID NOS: 40
SOFTWARE: Patentin version 3.1
SEQ ID NO 20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 18, Application US/10411026
Publication No. US20040063911A1
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: DeFrees, Shawn
APPLICANT: DeFrees, Shawn
APPLICANT: DeFrees, Shawn
APPLICANT: Bayer, Robert
APPLICANT: Hakes, David
APPLICANT: Hakes, David
APPLICANT: Chen, Xi
TITLE OF INVENTION: PROTEIN REMODELING METHODS AND PROTEINS/PEPTIDES PRODUCED BY THE TITLE OF INVENTION: METHODS
FILLE OF INVENTION: METHODS
FILLE REPERENCE: 040853-01-5053
CURRENT APPLICATION NUMBER: US/10/411,026
                                                                                                                                                                                                                                               SETFDABELTCLOTRLKLYKQGLRGSLIKLEGPLTWASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                          61 SEMFDLQEPTCLQTRLELYKQGLRGSLTKLKGPLTMMASHYKQHCPPTPETSCATQIITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61 SETFDAEELICLOTRLKLYKQGLRGSLIKLEGPLTWMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1 MWLQSLLLLGTVACSISAPARSPSPSTQPWEHVNAIQEARRLLNLSRDTAAEMNETVEVI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 MWLQSLLLLGTVACSISAPARSPSPSTQPWEHVNAIQEARRLLNLSRDTAAAEMNETVEVI 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV 60
                                                                                                                                                    1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                    77.2%; Score 586; DB 4; Length 144; 76.4%; Pred. No. 1.8e-58; ive 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 77.2%; Score 586; DB 4; Length 144; Best Local Similarity 76.4%; Pred. No. 1.8e-58; Matches 110; Conservative 15; Mismatches 19; Indels
                                                                                                                                                                                                                                                                                                                                                 KSFKKNLKDFLFEIPFDCWKPAOK 144
                                                                                                                                                                                                                                                                                                                                                                            121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   :|||:||||||
ESFKENLKDFLLVIPFDCWEPVQE 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ; Sequence 20, Application US/10609346; Publication No. US20040063635A1; GENERAL INFORMATION:
                                                                           Best Local Similarity 76.4
Matches 110; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT
ORGANISM: Homo sapiens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-10-609-346-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US-10-411-026-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-10-609-346-20
       US-10-411-037-18
                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                 121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                         Query Match
                                                                                                                                                                                               셤
                                                                                                                                                                                                                                               8
                                                                                                                                                                                                                                                                                              요
                                                                                                                                                                                                                                                                                                                                              ò
                                                                                                                                                                                                                                                                                                                                                                                      Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ద
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  셤
```

ö

ö

```
; ORGANISM: Homo sapiens
US-10-411-049-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           셤
                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: NOEL ACLILLACY INC.
APPLICANT: DeFrees, Shawn
APPLICANT: DeFrees, Shawn
APPLICANT: Zopf, David
APPLICANT: Abayer, Robert
APPLICANT: Hakes, David
APPLICANT: Hakes, David
APPLICANT: Hakes, David
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
AP
61 SEMFDLQEPTCLQTRLELYKQGLRGSLTKLKGPLTMMASHYKQHCPPTPETSCATQIITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   61 SEMFDLQEPTCLQTRLELYKQGLRGSLTKLKGPLTWMASHYKQHCPPTPETSCATQIITF 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 77.2%; Score 586; DB 4; Length 144; Best Local Similarity 76.4%; Pred. No. 1.8e-58; Matches 110; Conservative 15; Mismatches 19; Indels
                                                                      121 KSFKKNLKDFLFEIPFDCWKPAQK 144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 18, Application US/10411049
Publication No. US20040082026A1
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                 Sequence 18, Application US/10410962
Publication No. US20040077836A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT: Neose Technologies, Inc. APPLICANT: DeFrees, Shawn APPLICANT: Zopf, David APPLICANT: Bayer, Robert APPLICANT: Hakes, David
                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Neose Technologies, APPLICANT: DeFrees, Shawn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENCTH: 144
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-410-962-18
                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-10-411-049-18
                                                                      121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        61
                                                                                                                                         g
                                                                      ò
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ઠે
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ઠે
```

```
| TITLE OF INVESTION: Deep: CARNING: ```

```
61 SEMPDLOEPTCLOTRLELYKOGLRGSLTKLKGPLTWMASHYKOHCPPTPETSCATQIITF 120
  121 ESFKENLKDFLLVIPFDCWEPVQE 144
   121 KSFKKNLKDFLFEIPFDCWKPAQK 144
  Search completed: May 25, 2006, 15:16:05 Job time : 178 secs
  ò
  g
   GENERAL INFORMATION:

APPLICANT: Neose Technologies, Inc.
APPLICANT: DeFrees, Shawn
APPLICANT: DeFrees, Shawn
APPLICANT: DeFrees, Shawn
APPLICANT: DeFrees, Shawn
APPLICANT: DeFrees, Shawn
APPLICANT: Bobert
APPLICANT: BAkes, David
APPLICANT: Hakes, David
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: BAKES
APPLICANT: BAKES
APPLICANT: BAKES
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: Chen, Xi
APPLICANT: ON WHERE: US/10/410,930
CURRENT FILING DATE: 2001-10-10
PRIOR PILING DATE: 2001-10-10
PRIOR PILING DATE: 2001-10-10
PRIOR PILING DATE: 2002-06-07
PRIOR PILING DATE: 2002-06-07
PRIOR PILING DATE: 2002-06-07
PRIOR PILING DATE: 2002-06-07
PRIOR PILING DATE: 2002-07-17
PRIOR PELING DATE: 2002-07-17
PRIOR PILING DATE: 2002-08-16
PRIOR PILING DATE: 2002-08-16
PRIOR APPLICATION NUMBER: US 60/407,527
PRIOR APPLICATION NUMBER: US 60/407,527
PRIOR APPLICATION NUMBER: US 60/407,527
PRIOR APPLICATION NUMBER: US 60/407,527
PRIOR APPLICATION NUMBER: US 60/407,527
PRIOR APPLICATION NUMBER: US 60/407,527
PRIOR APPLICATION NUMBER: US 60/407,527
PRIOR APPLICATION NUMBER: US 60/407,527
   ö
  ö
  61 SETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF 120
   1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV 60
   1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
   Gaps
  Gaps
  .
0
   ö
  Ouery Match 77.2%; Score 586; DB 4; Length 144; Best Local Similarity 76.4%; Pred. No. 1.8e-58; Matches 110; Conservative 15; Mismatches 19; Indels
   Query Match 77.2%; Score 586; DB 4; Length 144; Best Local Similarity 76.4%; Pred. No. 1.8e-58; Matches 110; Conservative 15; Mismatches 19; Indels
     NUMBER OF SEQ ID NOS: 115
SOFTWARE: FastSEQ for Windows Version 3.0
SEQ ID NO 114
LENGTH: 144
   121 KSFKKNLKDFLFEIPFDCWKPAQK 144 :|||||||||||||||||121 ESFKENLKDFLLVIPFDCWEPVQE 144
   Sequence 18, Application US/10410930 Publication No. US20040115168A1 GENERAL INFORMATION:
   SOFTWARE: Patentin version 3.2
  NUMBER OF SEQ ID NOS: 75
   ; LENGTH: 144
; TYPE: PRT
; ORGANISM: Homo sapiens
US-10-410-930-18
  TYPE: PRT
CAGANISM: Homo sapiens
US-10-659-684-114
   RESULT 15
US-10-410-930-18
  SEQ ID NO 18
   g
   ò
   g
   ò
  엄
   ò
   g
  8
   ò
```

```
Sequence 2460, Ap
Sequence 18, Appl
Sequence 7275, Ap
Sequence 7273, Ap
Sequence 20993, A
Sequence 20993, A
Sequence 15150, A
Sequence 18543, A
Sequence 18541, A
Sequence 18541, A
Sequence 24953, A
Sequence 24953, A
Sequence 24953, A
Sequence 20916, A
Sequence 266, Appl
  Seguence 394, App
  (without alignments)
114.555 Million cell updates/sec
  Sequence 15151,
Sequence 8, App
   Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.
   / EMC_Celerra_SIDS3/ptodata/2/pubpaa/US09_NEW_PUB.pep:*
/ EMC_Celerra_SIDS3/ptodata/2/pubpaa/US06_NEW_PUB.pep:*
/ EMC_Celerra_SIDS3/ptodata/2/pubpaa/US06_NEW_PUB.pep:*
/ EMC_Celerra_SIDS3/ptodata/2/pubpaa/US08_NEW_PUB.pep:*
/ EMC_Celerra_SIDS3/ptodata/2/pubpaa/US08_NEW_PUB.pep:*
/ EMC_Celerra_SIDS3/ptodata/2/pubpaa/US10_NEW_PUB.pep:*
/ EMC_Celerra_SIDS3/ptodata/2/pubpaa/US11_NEW_PUB.pep:*
/ EMC_Celerra_SIDS3/ptodata/2/pubpaa/US11_NEW_PUB.pep:*
/ EMC_Celerra_SIDS3/ptodata/2/pubpaa/US11_NEW_PUB.pep:*
   759
1 MWLQNLLLLGTVVVSMPAPT......KNLKDFLFEIPFDCWKPAQK 144
   Description
GenCore version 5.1.8
Copyright (c) 1993 - 2006 Biocceleration Ltd.
   May 25, 2006, 15:13:17; Search time 14 Seconds
   US-10-511-937-2460

US-11-183-218-18

US-10-953-349-7275

US-10-953-349-7273

US-10-953-349-7273

US-10-953-349-7273

US-10-953-349-20993

US-10-953-349-115150

US-10-953-349-115150

US-10-953-349-115150

US-10-953-349-13761

US-10-953-349-13761

US-10-953-349-13761

US-10-953-349-13761

US-10-953-349-20915

US-10-953-349-20916

US-10-953-349-20916

US-10-953-349-20916

US-10-953-349-20916

US-10-953-349-20916

US-10-953-349-20916

US-10-953-349-20916

US-10-953-349-20916

US-10-953-349-20916

US-10-953-349-10265

US-10-953-349-10265

US-10-953-349-10265

US-10-953-349-10265
  Total number of hits satisfying chosen parameters:
   Applications AA New:*
  56051 segs, 11137335 residues
   SUMMARIES
   Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries
  - protein search, using sw model
  BLOSUM62
Gapop 10.0 , Gapext 0.5
   seg length: 0
seg length: 200000000
   8
   US-10-614-481-9
  Query
Match Length
   Published
  Scoring table:
   Title:
Perfect score:
   71.5
71.5
70.5
68.5
68.5
68.5
68.5
67.5
67.5
  65.5
65
64.5
63.5
63
   Score
   Minimum DB &
Maximum DB &
  OM protein
  Sequence:
  Searched:
   Database
   Run on:
  Result
No.
```

| Semience 851. Ann  | 0 0                |                     | Seguence 849, App | Sequence 20021, A   | Sequence 3373, Ap  | Sequence 4624, Ap  | Sequence 4318, Ap  | Sequence 22, Appl | Seguence 24, Appl | 26,              | Seguence 46, Appl | Sequence 2709, Ap  | Sequence 13506, A   | Sequence 18, Appl | 188                 | Seguence 15286, A   | Sequence 2214, Ap  | 2213,              | Sequence 539, App | Sequence 537, App |  |
|--------------------|--------------------|---------------------|-------------------|---------------------|--------------------|--------------------|--------------------|-------------------|-------------------|------------------|-------------------|--------------------|---------------------|-------------------|---------------------|---------------------|--------------------|--------------------|-------------------|-------------------|--|
| 115-10-953-349-851 | TIS-10-953-449-850 | 0.00 0.00 0.00 0.00 | US-10-953-349-849 | US-10-953-349-20021 | US-11-293-697-3373 | US-11-293-697-4624 | US-11-293-697-4318 | US-11-181-115-22  | US-11-181-115-24  | US-11-181-115-26 | US-11-181-115-46  | US-11-293-697-2709 | US-10-953-349-13506 | US-11-314-018-18  | US-10-953-349-18874 | US-10-953-349-15286 | US-10-953-349-2214 | US-10-953-349-2213 | US-10-505-928-539 | US-10-505-928-537 |  |
| v                  | <b>u</b>           | ,                   | 9                 | ø                   | 7                  | 7                  | 7                  | 7                 | 7                 | 7                | 7                 | 7                  | 9                   | 7                 | 9                   | 9                   | 9                  | 9                  | ø                 | 9                 |  |
| 219                | 755                | 0 1                 | 342               | 352                 | 361                | 392                | 611                | 664               | 664               | 664              | 664               | 142                | 362                 | 1332              | 377                 | 177                 | 332                | 346                | 201               | 1193              |  |
| α                  |                    |                     | 8.3               | 8.3                 | 8.3                | 8.3                | 8.3                | 8.5               | 8.2               | 8.5              | 8.2               | 8.2                | 8.5                 | 8.5               | 8.1                 | 8.0                 | 8.0                | 8.0                | 8.0               | 9.0               |  |
| ç                  | 9 6                | 3                   | 63                | 63                  | 63                 | 63                 | 63                 | 62.5              | 62.5              | 62.5             | 62.5              | 62                 | 62                  | 62                | 61.5                | 61                  | 61                 | 61                 | 60.5              | 60.5              |  |
| 30                 | 2 6                | 3                   | 28                | 29                  | 30                 | 31                 | 32                 | 33                | 34                | 35               | 36                | 37                 | 38                  | 39                | 40                  | 41                  | 42                 | 43                 | 44                | 45                |  |

## AL IGNMENTS

```
ö
   SETFDAEELICLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTLETSCATQMITF 120
   9
  1 MWLQSLLLLGTVACSISAPARSPSPSTQPWEHVNAIQEARRLLNLSRDTAAEMNETVEVI 60
  1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV
   0; Gaps
   GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: EXPRESSION DIAGNOSTICS, INC.
APPLICANT: Fry, Kirk
APPLICANT: Fry, Kirk
APPLICANT: Fry, Kirk
APPLICANT: Fry, Kirk
APPLICANT: Prentice, James
APPLICANT: Prentice, James
APPLICANT: Prentice, James
APPLICANT: Prentice, James
APPLICANT: Prentice, James
APPLICANT: Macris, MacDonald
APPLICANT: Mosenberg, Steven
TITLE OF INVENTION: METHODS AND COMPOSITIONS FOR DIAGNOSING
TITLE OF INVENTION: METHODS AND MONITORING TRANSPLANT REJECTION
FILE REFERENCE: 506612000104
CURRENT APPLICATION NUMBER: US/10/511,937
CURRENT APPLICATION NUMBER: US/10/511,937
CURRENT FILING DATE: 2003-04-24
PRIOR FILING DATE: 2003-04-24
PRIOR FILING DATE: 2003-04-24
PRIOR FILING DATE: 2002-12-20
NUMBER OF SEQ ID NOS: 3117
SOFFWARE: PALENTIN VARER: US 10/325,899
PRIOR FILING DATE: 2002-12-20
NUMBER OF SEQ ID NOS: 3117
SOFFWARE: PALENTH: 144
  Length 144;
  77.2%; Score 586; DB 6; Length 14
76.4%; Pred. No. 5.2e-53;
ive 15; Mismatches 19; Indels
  KSFKKNLKDFLFEIPFDCWKPAQK 144
  US-10-511-937-2460

Sequence 2460, Application US/10511937

Publication No. US20060088836A1

GENERAL INFORMATION:
   Best Local Similarity 76.4
Matches 110; Conservative
   ORGANISM: Homo sapiens
US-10-511-937-2460
  61
  61
  121
   Query Match
   셤
  ò
  임
  g
   ò
```

```
CURRENT APPLICATION NUMBER: US/10/953,349
   ; Sequence 7274, Application US/10953349; Publication No. US20060107345A1; GENERAL INFORMATION:
                   CURRENT FILING DATE: 2004-09-30 NUMBER OF SEQ ID NOS: 40252 SOFTWARE: Patentin version 3.3 SEQ ID NO 7275
   ; TYPE: PRT
; ORGANISM: Arabidopsis thaliana
US-10-953-349-7274
   TYPE: PRT; ORGANISM: Arabidopsis thaliana US-10-953-349-7273
   TYPE: PRT; CRGANISM: Arabidopsis thaliana
US-10-953-349-7275
   28; Conservative
  Best Local Similarity
Matches 28; Conserva
  US-10-953-349-7274
   US-10-953-349-7273
   Query Match
  셤
   ò
   임
   8
   d
   ð
   RESULT 3
US-10-953-349-7275
US-10-953-349-7275
Sequence 7275, Application US/10953349
Publication No. US20060107345A1
GENERAL INFORMATION:
APPLICANT: ALEXANDROV, Nickolai et al.
TITLE OF INVENTION: SEQUENCE-DETERMINED DNA FRAGMENTS AND CORRESPONDING POLYPEPTIDES
TITLE OF INVENTION: ENCONDED THERBY
FILE REFERENCE: 2750-15799US2
   61 SETFDABELTCLOTRLKLYKOGLRGSLIKLEGPLTMMASHYKOHCPPTLETSCATOMITF 120
   61 SEMFDLQEPTCLQTRLELYKQGLRGSLTKLKGPLTMMASHYKQHCPPTPETSCATQIITF 120
  1 MWLQNLLLLGTVVYSMPAPTRQPSPVTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVV 60
  Gaps
  .
0
  Score 586; DB 7; Length 144; Pred. No. 5.2e-53;
   19; Indels
   APPLICANT: Chen, Xi
APPLICANT: Bowe, Caryne
TITLE OF INVENTION: ERYTHROPOIETIN: REMODELING AND
TITLE OF INVENTION: GLYCOCONJUGATION OF ERYTHROPOIETIN
  15; Mismatches
   121 KSPKKNLKDFLFEIPFDCWKPAQK 144
         RESULT 2
US-11-183-218-18
is Sequence 18, Application US/11183218
is Publication No. US20060088906A1
is GENERAL INFORMATION:
is APPLICANT: Neone Technologies, Inc.
is APPLICANT: Opef. David
is APPLICANT: Applicant: Appli
   77.28;
   Matches 110, Conservative
   ; ORGANISM: Homo sapiens
US-11-183-218-18
   Query Match
Best Local Similarity
   셤
   ò
   g
   Š
   셤
```

```
Sequence 7273, Application US/10953349
Fublication No. US20060107345A1
GENERAL INFORMATION:
APPLICANT: ALEXANDROW, Nickolai et al.
TITLE OF INVENTION: ENCONDED THERBY
TITLE OF INVENTION: ENCONDED THERBY
TITLE OF INVENTION: ENCONDED THERBY
CURRENT APPLICATION NUMBER: US/10/953,349
CURRENT PILING DATE: 2004-09-30
NUMBER OF SEQ ID NOS: 40252
SOFTWARE: Patentin version 3.3
SEQ ID NO 7273
LENGTH: 363
   APPLICANT: ALEXANDROV, Nickolai et al.
TITLE OF INVENTION: SEQUENCE-DETERMINED DNA FRAGMENTS AND CORRESPONDING POLYPEPTIDES
TITLE OF INVENTION: SEQUENCE-DETERMINED DNA FRAGMENTS AND CORRESPONDING POLYPEPTIDES
TITLE OF INVENTION: ENCONDED THERBY
FILE OF INVENTION: ENCONDED THERBY
CURRENT APPLICATION NUMBER: US/10/953,349
CURRENT FILING DATE: 2004-09-30
NUMBER OF SEQ ID NOS: 40252
SOFTWARE: Patentin version 3.3
SEQ ID NO 2274
   5;
   5,
   84
  85 GSLIKLEGPLTMMASHYKQHCPPTLETSCATQM-----ITFKSFKKNLKDFLFEIP 135
   85 GSLIKLEGPLIMMASHYKQHCPPTLETSCATQM-----ITFKSFKKNLKDFLFEIP 135
  175 NAETKYSGVIDCITKVFRSEGIPGLYRGCAINLLRTTPSAVITFTTYEMMLRFFRQVVP 233
   34 DAIKEALSLLNNSS-----DTAAIMNETVEVVSE--TFDAEELTCLQTRLKLYKQG-LR 84
  133 NAETKYSGVIDCITKVPRSEGIPGLYRGCATNLLRTTPSAVITFTTYEMMLRFFRQVVP 191
  34 DAIKEALSLINNSS-----DIAAIMNETVEVVSE--TFDAEELTCLQTRLKLYKQG-LR
   22; Gaps
   Gaps
  Query Match
10.0%; Score 76; DB 6; Length 285;
Best Local Similarity 23.5%; Pred. No. 1.1;
Matches 28; Conservative 26; Mismatches 43; Indels
10.0%; Score 76; DB 6; Length 243; 23.5%; Pred. No. 0.89; tive 26; Mismatches 43; Indels
```

g à

```
US-10-953-349-15150
US-10-953-349-15150
US-10-953-349-15150
Sequence 15150, Application US/10953349
Publication No. US20060107345A1
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION:
TITLE OF INVENTION:
FILE REPRESENCE: 2750-1579UGS
TITLE OF INVENTION:
CURRENT APPLICATION NUMBER: US/10/953,349
CURRENT APPLICATION NUMBER: US/10/953,349
CURRENT FILING DATE: 2004-09-30
NUMBER OF SEQ ID NOS: 40252
SOFTWARE: PatentIn version 3.3
SEQ ID NO 15150
LENGTH: 129
  'n
   50 AAIMNETVEVVSETFDAEELTCLQTRLKLYKQGLRGSLIKLEGP--LTMMASHYKQHCPP 107
  PP-SERCCPLLADLADLDAAVCLCTAIRAKVLG----VIKLNVPVDLVLLLNHCHKTCPP 123
   25 EVASLLFDPKEAATIDRDTAFAIGCT-GLEELL------GIDPSFEQFEAPLFSQ 72
  38 EALSLINNSSDTAAIMNETVEVVSETFDAEELTCLQTRLKLYKQGLRGSLIKLEGPLTMM
   6 LLLLG-----TVVYS-----MPAPTROPSPVTRPWQ-HVDAIK-----EALSLLNNSSDT
85 GSLIKLEGPLTMMASHYKOHCPPTLETSCATOMITFKSFKKNLKDFLFEIPFDCWK 140
   21; Gaps
  98 ASHYKQHCPPTLETSCATQMITFKSFKKNLKDFLFEI-PFDCWKPAQK 144
  Query Match 9.3%; Score 70.5; DB 7; Length 734; Best Local Similarity 28.7%; Pred. No. 13; Matches 31; Conservative 13; Mismatches 43; Indels 2:
   Length 129;
   Indels
                                     223 NIVTKAVSLIKQEKLSKKAHCPRLIPPPSAIEDVR-KSLKINKQQFL
   49;
  DB 6;
   Sequence 3300, Application US/11293697
Publication No. US20060105376A1
GENERAL INPORMATION:
APPLICANT: HELIX RESEARCH INSTITUTE
TITLE OF INVENTION: Novel full length cDNA
FILE REFERENCE: H1-A0106
CURRENT APPLICATION NUMBER: US/11/293,697
CURRENT FILING DATE: 2005-12-05
PRIOR APPLICATION WUMBER: US/10/108,260
PRIOR PRILING DATE: 2002-03-28
NUMBER OF SEQ ID NOS: 5458
SOFTWARE: PALENTIN Ver. 2.1
SEQ ID NO 3300
LENGTH: 734
  9.0%; Score 68.5; Di
25.8%; Pred. No. 2.3;
tive 17; Mismatches
  ; Sequence 18543, Application US/10953349
  Best Local Similarity 25.8
Matches 31; Conservative
   TYPE: PRT
CORGANISM: Homo sapiens
US-11-293-697-3300
  TYPE: PRT; ORGANISM: Glycine max US-10-953-349-15150
   RESULT 10
US-10-953-349-18543
   RESULT 8
US-11-293-697-3300
   Query Match
     ઠ
   셤
  셤
   ò
  셤
   ò
   Sequence 20992, Application US/10953349
Publication No. US20060107345A1
GENERAL INFORMATION:
GENERAL INFORMATION:
APPLICANT: ALEXANDROW, Nickolai et al.
TITLE OF INVENTION: ENCONDED THERBY
TITLE OF INVENTION: ENCONDED THERBY
TITLE OF INVENTION: ENCONDED THERBY
CURRENT APPLICATION NUMBER: US/10/953,349
CURRENT FILING DATE: 2004-09-30
NUMBER OF SEQ ID NOS: 40252
SOFTWARE: Patentin version 3.3
SEQ ID NO 20992
LENGTH: 382
  APPLICANT: ALEXANDROV, Nickolai et al.
TITLE OF INVENTION: SEOUENCE-DETERMINED DNA FRAGMENTS AND CORRESPONDING POLYPEPTIDES
TITLE OF INVENTION: ENCONDED THERBY
TITLE OF INVENTION: ENCONDED THERBY
FILE REFERENCE: 2750-157998US2
CURRENT APPLICATION NUMBER: US/10/953,349
CURRENT FILING DATE: 2004-09-30
NUMBER OF SEQ ID NOS: 40252
SOFTWARE: Patentin version 3.3
  : ||: :: ::|:|
198 EKIKQYMAKMDNTSVENLSPGNVAIASSIAKVIASILTYPHEVI-----RAKLQEĞĞQIR 252
   76 VLPPYQHKGYGRFLLEVLYDVAISENVFDFTVEEPLDHFQRVR-TCVDA-LRLLRFGPIQ 133
   165 VLPPYQHKGYGRFLLEVLYDVAISENVFDFTVEEPLDHFQRVR-TCVDA-LRLLRFGPIQ 222
   84
   85 GSLIKLEGPLTMMASHYKQHCPPTLETSCATQM-----ITFKSFKKNLKDFLFEIP 135
   253 NAETKYSGVIDCITKVFRSEGIPGLYRGCATNLLRTTPSAVITFTTYEMMLRFFRQVVP 311
  26 VTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVVSETFDAEELTCLQTRLKLYKQG-LR 84
   34 DAIKEALSLINNSS-----DIAAIMNETVEVVSE--TFDAEELTCLQTRLKLYKQG-LR
   26 VTRPWQHVDAIKEALSLLNNSSDTAAIMNETVEVVSETFDAEELTCLQTRLKLYKQG-LR
   85 GSLIKLEGPLTMMASHYKOHCPPTLETSCATOMITFKSFKKNLKDFLFEIPFDCWK 140
  Gaps
  6
   22;
   DB 6; Length 293;
  Length 382;
                          10.0%; Score 76; DB 6; Length 363; 23.5%; Pred. No. 1.5; ive 26; Mismatches 43; Indels
  57; Indels
  DB 6;
   9.4%; Score 71.5; DB 26.7%; Pred. No. 3.2; tive 19; Mismatches
   9.4%; Score 71.5; Di
26.7%; Pred. No. 4.5;
tive 19; Mismatches
  Sequence 20993, Application US/10953349
Publication No. US20060107345A1
  Query Match
Best Local Similarity 26.7*
Matches 31; Conservative
   Conservative
  ; ORGANISM: Glycine max US-10-953-349-20992
  ; ORGANISM: Glycine max US-10-953-349-20993
  Query Match
Best Local Similarity
Matches 31; Conserv
                          Query Match
Best Local Similarity
Matches 28; Conserv
   GENERAL INFORMATION:
  US-10-953-349-20992
  US-10-953-349-20993
  SEQ ID NO 20993
LENGTH: 293
```

g

ઠ

ò

```
Sequence 24953, Application US/10953349
Publication No. US20060107345A1
GENERAL INPORMATION:
GENERAL INPORMATION:
TITLE OF INVENTION: SEQUENCE-DETERMINED DATA FRAGMENTS AND CORRESPONDING POLYPEPTIDES
TITLE OF INVENTION: SEQUENCE-DETERMINED DATA FRAGMENTS AND CORRESPONDING POLYPEPTIDES
TITLE OF INVENTION: SEQUENCE-DETERMINED DATA FRAGMENTS AND CORRESPONDING POLYPEPTIDES
TITLE OF INVENTION: 2750-1579PUS2
CURRENT APPLICATION NUMBER: US/10/953,349
CURRENT FILING DATE: 2004-09-30
NUMBER OF SEQ ID NOS: 40252
SOFTWARE: PATEMILIN VERSION 3.3
SEQ ID NO 24953
               APPLICANT: ALEXANDROV, Nickolai et al.
TITLE OF INVENTION: SEQUENCE-DETERMINED DNA FRAGMENTS AND CORRESPONDING POLYPEPTIDES
TITLE OF INVENTION: ENCONDED THERBY
FILE REFERENCE: 2750-15799US2
CURRENT APPLICATION NUMBER: US/10/953,349
CURRENT FILING DATE: 2004-09-30
NUMBER OF SEQ ID NOS: 40252
SOFTWARE: Patentin version 3.3
SEQ ID NO 18541
   Sequence 13761, Application US/10953349
Publication No. US20060107345A1
GENERAL INFORMATION:
APPLICANT: ALEXANDROW, Nickolai et al.
ITILE OF INVENTION: SEQUENCE-DETERMINED DNA FRAGMENTS AND CORRESPONDING POLYPEPTIDES
ITILE OF INVENTION: ENCONDED THERBY
FILE REFERENCE: 2750-1579PUS2
   9
   56 TVEVVSETFDAEE-----LITCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTL 109
  4 NNSNNDAFMRNQNAAVQARTKAQNRSNVLQLKLIGQSHPTGLTANLLKLFEPRPPLEYKP 63
  44 NNSSDTAAIMNETVEVVSETFDAEELTCLQTRL--KLYKQGLRGSLIKL---EGPLTMMA
   212 SSPAPTKKPL----WOHLSEBALLAKLDPSVAWSYRRALSSRNLGRNTLSRDVRSMGSS
  63;
   9.0%; Score 68.5; DB 6; Length 482; 30.4%; Pred. No. 12;
   DB 6; Length 438;
   40; Indels
  ---TFKSFKKNLKDFL 131
  267 PLIFHSSSFSFGKNNSLCRLSGTEDRIVLYCTSLRG--
  Query Match 9.0%; Score 68.5; D
Best Local Similarity 22.4%; Pred. No. 11;
Matches 35; Conservative 18; Mismatches
   11; Mismatches
   15 SMPAPTRQPSPVTRPWQHVD----
   110 ETSCATOMI-----
  21; Conservative
   99 SHYKQHCPP 107
   64 PPEKRKCPP 72
   TYPE: PRT
ORGANISM: Glycine max
   TYPE: PRT
ORGANISM: Glycine max
   Best Local Similarity
Matches 21; Conserv
   US-10-953-349-18541
   RESULT 13
US-10-953-349-24953
  US-10-953-349-24953
  US-10-953-349-13761
   Query Match
   유
   ઠે
  g
   ઠે
   g
  ò
   g
   ઠ
  Sequence 18642, Application US/10953349
Publication No. US20060107345A1
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
GENERAL INFORMATION:
TITLE OF INVENTION:
TITLE OF INVENTION:
FILE REFERENCE:
TITLE OF INVENTION:
GENERAL INFORMATION:
TITLE OF INVENTION:
TITLE OF INVENTION:
GURENT PILING DATE:
TO 10/953,349
CURRENT PILING DATE:
TO 10/953,349
               GENERAL INFORMATION:
APPLICANT: ALEXANDROV, Nickolai et al.
TITLE DE INVENTION: SEQUENCE-DETERMINED DNA FRAGMENTS AND CORRESPONDING POLYPEPTIDES
TITLE DE INVENTION: SEQUENCE-DETERMINED DNA FRAGMENTS AND CORRESPONDING POLYPEPTIDES
TITLE OF INVENTION: BUCONDED THERBY
FILE REFERENCE: 2750-1579PUS2
CURRENT APPLICATION NUMBER: US/10/953,349
CURRENT FILING DATE: 2004-09-30
NUMBER OF SEQ ID NOS: 40252
SOFTWARE: PALENTIN VERSION 3.3
  -----IRKTY 233
  56 TVEVVSETFDAEE-----LTCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTL 109
  138 SSPAPTKKPL-----WOHLSEEALLAKLDPSVAWSYRRALSSRNLGRNTLSRDVRSMGSS 192
  56 TVEVVSETFDAEE-----LTCLQTRLKLYKQGLRGSLIKLEGPLTMMASHYKQHCPPTL 109
   ---IRKTY 293
  22
  15 SMPAPTROPSPVTRPWOHVD------AIKEALSLIN-----NSSDTAAIMNE
  15 SMPAPTRQPSPVTRPWQHVD------AIKEALSLLN-----NSSDTAAIMNE
  Gaps
   63;
  9.0%; Score 68.5; DB 6; Length 424; 22.4%; Pred. No. 10;
   DB 6; Length 364;
   40; Indels
   193 PLIFHSSSFSFGKNNSLCRLSGTEDRIVLYCTSLRG----
   110 ETSCATQMI------TFKSFKKNLKDFL 131
  110 ETSCATQMI-----TFKSFKKNLKDFL 131
  EDCCSVRMILRGFMVAVDERDISMDSSYRKELKDAL 329
   18; Mismatches
   18; Mismatches
   9.0%; Score 68.5; 2.4%; Pred. No. 8.0
  US-10-953-349-18541
; Sequence 18541, Application US/10953349
; Publication No. US20060107345A1
Publication No. US20060107345A1
   22.48;
  Query Match
Best Local Similarity 22.41
Matches 35; Conservative
   35; Conservative
   ; ORGANISM: Glycine max US-10-953-349-18543
   , ORGANISM: Glycine max US-10-953-349-18542
   Best Local Similarity
   RESULT 11
US-10-953-349-18542
  SEQ ID NO 18543
  LENGTH: 364
   294
   Query Match
   Matches
   RESULT 12
   ઠે
   qq
  ò
  g
  ઠે
  셤
   ò
  셤
   ò
   g
  ò
  셤
```

```
RESULT 15
US-10-933-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-349-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
105-10-953-13760
1
   3,
  46 SSDTAAIMNETVEVVSETFDAEELTCLQ--TRLKLYKQGLRGSLIKLEGPLTMMASHYK- 102
  46 SSDTAAIMNETVEVVSETFDAEELTCLQ--TRLKLYKQGLRGSLIKLEGPLTMMASHYK- 102
   Query Match
8.9%; Score 67.5; DB 6; Length 442;
Best Local Similarity 29.7%; Pred. No. 14;
Matches 22; Conservative 14; Mismatches 27; Indels 11; Gaps
  27; Indels 11; Gaps
  Query Match

8.9%; Score 67.5; DB 6; Length 445;
Best Local Similarity 29.7%; Pred. No. 14;
Matches 22; Conservative 14; Mismatches 27; Indels 1.
CURRENT APPLICATION NUMBER: US/10/953,349
CURRENT FILING DATE: 2004-09-30
NUMBER OF SEQ ID NOS: 40252
SUFTARE: Patentin version 3.3
SEQ ID NO 13761
LENGTH: 442
  103 -----OHCPPTLET 111
   : | |: : |
240 YQSTFSYCLPSFKT 253
   103 -----QHCPPTLET 111
   : | |: : |
243 YQSTFSYCLPSFKT 256
  ; TYPE: PRT
; ORGANISM: Glycine max
US-10-953-349-13761
   ; TYPE: PRT
; ORGANISM: Glycine max
US-10-953-349-13760
   g
   ð
  g
  ద
   ò
  ð
  g
```

Search completed: May 25, 2006, 15:16:25 Job time : 14 secs

BEST AVAILABLE COPY